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BULBS FOR POTS

AND SPRING PLANTING IN THE GARDEN



A CATALOG OF THE BULBS OF THE AMARYLLIS, IRIS, ORCHID
AND OTHER PLANT FAMILIES

Special Articles: How to Grow Gloxinias; Tuberous Begonias and How
to Grow Them; How to Grow Amaryllis. Culture Directions for all
Bulbs, Plants and Orchids Listed.

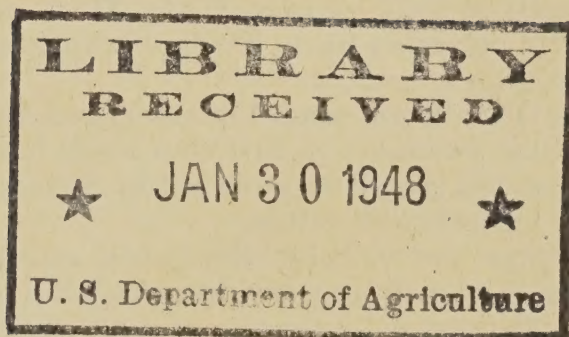
A PERSONAL LETTER To You.

SPRING 1948

CECIL HOUDYSHELE

1412 THIRD ST.

LA VERNE, CALIFORNIA



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Postmaster, marked "Refused."

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FLOWERS FOR SENTIMENT

Dear Floral Friends,

As all our old customers know, I usually write an introductory letter in our catalogs to take the place of the many personal letters I do not have time to write. But this spring, I have added much to the culture information, and there is little space available.

I do want to mention the importance of flowers as an expression of sentiment. Recently it was called to my attention that at the seat of two important institutions of learning, there has been propaganda adverse to the use of flowers at social events and at funerals.

I cannot imagine the state of culture surrounding the students of this college and this university.

Whether we are happy and gay or sad and depressed flowers are most important. Many mothers and wives have told me how flowers have helped them endure the suspense and waiting during the war. Many sick persons have told me how they have been helped by flowers. As expressions of sympathy when our loved ones were laid to rest, we have all found more comfort than words could have given. One day each year, our nation has dedicated to the decoration of the graves of our soldiers with flowers and flags, and so it has become Memorial Day for all our loved ones who have gone before us.

It seems to me that discouraging the use of flowers is taking a step in the direction certain ideologies have taken, when they debase religion, family ties, sentiment and even morality.

May the year 1948 bring you health, happiness and prosperity. May you have many flowers. May we all have peace.

Sincerely,
Cecil Houdyshel

P. S. If you are interested in colored slides of our flowers, for your garden club write to Mrs. Cecil Houdyshel.

TERMS AND INSTRUCTIONS FOR ORDERING

The prices in this catalog cancel all former quotations.

California Customers must add 2½ % **Sales Tax**.

Remit by check or M. O. If stamps are sent, send \$1.08 for \$1.00. We do not carry accounts. Remit the full amount of your order in advance.

C. O. D. We do not ship bulbs C. O. D.

Postage prepaid on orders of \$1.00 or over. Under \$1.00, add 10c extra.

Insurance. Send 3c extra on orders up to \$5.00. 10c for orders \$5.00 to \$25.00. We accept no responsibility if you do not insure.

Special Handling costs 15c. If you send 15c extra, and insurance, your parcel post shipment will receive the same treatment as first class mail. It will arrive more promptly and safely. All valuable shipments should be protected by Insurance and Special Handling, total 18c for \$5.00 and 23c up to \$24.00 values.

Express is safer for large and valuable shipments, especially in cold weather in north. It is more expensive than mail and we ship that way, only f.o.b. La Verne. We will add extra value to equal postage.

Prices given are usually for one bulb. A dozen costs 10 times the price of one. 6 are sold at doz. rate. Unless otherwise stated, 100 cost 70 times the cost of one or 7 times the cost of one doz. 50 are sold for the price of 4 doz., not at 100 rate.

Wholesale. Dealers are invited to ask for our wholesale quantity price list or to submit a list of bulbs and quantities wanted for a quotation. We are unable to give discounts to dealers on small quantity orders from this catalog.

Foreign orders. Our prices include prepaid delivery only as far as our 8th postal zone. We can usually prepay to Mexico or Canada. It is best to include some extra on

export orders. If too much, we add extra bulbs. The 100 rate prices do not apply on export orders unless customer pays transportation.

Canadian Customers. Apply to Sec. of Destructive Insect and Pest Act, Advisory Board, Ottawa, Ont. (or ask your P.M.) for Permit and mailing label and send these with your order.

Errors. We make them but correct them, if notified at once.

Partial Shipments. If everything is not included in first shipment a slip so stating is enclosed. When final shipment is made, another slip so states. Check them with order and if short, notify us at once.

Guarantee. Our bulbs are true to name and healthy, but we do not guarantee results since we do not control the conditions under which they are grown. If, in your opinion, our bulbs are not up to our specifications, notify us at once. If you are not then satisfied with our explanation, they may be returned. No refund will be made if planted unless circumstances indicate bulbs were at fault.

Culture directions are in this catalog, hence none are sent with bulbs.

Catalogs. **Spring Catalog**, Jan. 15. **Fall Catalog**, Aug. 15. Names are dropped from our mailing list if you do not buy for two years. If not interested, please ask P.M. to return this catalog at our expense, thus saving paper, labor and postage.

Correspondence. We enjoy your friendly letters. I answer them twice a year in our Introductory Letter. It is a fact that I work twelve hours a day or more and am still unable to answer all letters requiring it. Read entire catalog before asking questions.

Identifying Bulbs. We usually can. Send flower, foliage and if possible, a bulb. Give all facts known. Enclose self-addressed postcard and attach your letter to outside of package. We do not attempt to identify horticultural varieties of Gladiolus, Iris, etc.

Time of Delivery. All bulbs are delivered within range of correct planting dates.

GENERAL CULTURAL DIRECTIONS

Rich sandy loam is the best soil. Only a few, like Bearded Iris, prefer heavy soil. A very few, like Gloriosas, must have sandy soil.

All soils require the addition of much humus. Compost all garbage, weeds, leaves, cut branches and manures. When rotted, add to soil and thoroly mix.

Fertilizers. We recommend only animal manures and compost. Fresh manure can be used on a few plants, that are growing vigorously, as a very light mulch, but after flowering. Too much fertilizer before flowering time may almost or wholly stop the flowers. When the growth of a plant becomes abnormally rapid it is unlikely to flower or produce fruit. Your over-fertilized peach tree is likely to produce no fruit.

Do not fertilize a plant in dry soil, or use any fertilizer, unless thoroly rotted in a compost heap, in the soil before planting bulbs, seeds, or plants. Water lawns, trees, any plants well the day before applying fertilizer and again a few days after application.

After blooming, many neglect their bulbs. As a result the bulbs do not flower the following year. For success one must continue to give good culture. This is the time to fertilize, irrigate and cultivate frequently, until yellowing foliage indicates the bulb is becoming dormant. During this growth period next year's flower buds are formed.

Depth of planting and distance apart often cause too much concern. Bulbs usually have sufficient adaptability to do well under widely varying conditions. If left in one place a few years, most bulbs adjust themselves to their preferred depth. Approximately, bulbs should be about 2 or 3 times their diameter apart unless their habit of growth is spreading—like Ranunculus. In such cases plant farther apart. Small bulbs as large as Daffodils may be 4" to 6" deep. Bulbs with a heavy erect stem need deep planting in order to remain erect. Plant deeper in light sandy soils than in heavy soils and in cold climates to protect from frost.

Pests. Snails and slugs are most serious garden pests. We have found the very best control is furnished by **Bug-geta Pellets**. They also kill cut worms and grasshoppers. Because so easy to apply, they are more economical than powders which require you to stoop in placing them. Buy the economical way, in 25 lb. bags. Price \$3.75 f.o.b. La Verne. **Ants** are a pest in the house and in the garden. They distribute **aphis** and

mealy bug and tend them like domestic animals. Best control is **Ant-B-Gon**. Set of 4 dispensers, filled, 60c f.o.b. La Verne. Best to send by mail. Ask your P.M. the amount of postage required on 2 lbs. from La Verne and send this amount above the price of 60c. **Ant-B-Gon** liquid for refilling, 4 oz. 25c postpaid. **Mealy bugs** are a serious pest to garden and house plants. They are everywhere and must be controlled. First destroy ants. Wash them off of house plants and use a spray of water from hose to dislodge from garden plants. You will still need to spray with **Garden Volc**. Use any type of sprayer and a small fly sprayer will do for house plants. Price, **Garden Volc**, 4 oz. for 30c postpaid. Use **Garden Volc** also against Scale Insects.

Garden Success requires aggressive effort on your part. One can always blame the bulbs for failure, but it does not advance one's knowledge of gardening.

ACID AND ALKALINE SOILS

Most plants thrive in mildly acid, neutral or mildly alkaline soils. But others do not have so wide a range of tolerance. Rhododendrons, Azaleas, Camellias, Gardenias, Zantedeschias, Caladiums (and other members of Arum family), Nerines, Haemanthus, Gloxinias, Begonias, Orchids and most shade loving plants require an acid soil. Some like Gladiolus prefer mildly acid to neutral soils. Bearded Iris do best in neutral to alkaline soils. The acid-alkali balance depends upon the concentration of hydrogen ions in a saturated solution. This is expressed in pH units. pH 7 is neutral. Below that the acidity increases; above it the alkalinity increases. For the mathematical, I will explain that the numeral is the negative logarithm denoting the concentration of hydrogen ions in gram atoms per liter.

Soiltex Outfit. This small kit will enable you to determine the pH of your soil. No chemical knowledge is needed. Full directions for its use are included. Price \$1.00.

If your soil is too alkaline for the plants you wish to grow, the remedy is to add humus. Imported peat is the most acid. Some American peat is acid but some of it is actually alkaline due to minerals contained. Oak leaf mould is very acid.

Canadian Peat. We can furnish this to near-by customers for \$5.00 per bale, or 10 lbs. for \$1.00. Or we will send 25 lbs. net in a strong burlap sack for \$2.00 f.o.b. La Verne. Buy locally if you can. If ordered, ask your Express Agent the rate.

Rootone induces quick rooting of bulbs, cuttings and the sprouting of seed. As the result of its action bulbs make a more vigorous root system and grow larger and produce greater increase. Slightly moisten the base of the bulb and cover with a thin film of Rootone. Dip end of cuttings into the powder. Tumble seeds in a jar or seed envelope with the powder. Roll the coated seed out and save remaining powder. Price, one-half ounce, a good supply, 50c postpaid. 1-lb. can, for very extensive planting, \$5.00.

Vitamin B-1 is a useful stimulant for plants, we believe. We have used it in transplanting bulbs and other plants with apparent usefulness. 100 tablets, 75c.

Directions for use, applying only to our own tablets. In transplanting bulbs or any plants, loose roots, dissolve 5 tablets in 1 gal. of water. Soak roots in this 15 to 30 min. Pour solution around plant when set. To stimulate growing plants, for the first application, dissolve one tab. in 2 gal. water. For succeeding waterings, use 1 tab. to 4 gal. water once a week. **Warning**. Do not soak dormant bulbs in Vit. B-1. It rots them.

Sources of more information. Subscribe for Flower Grower, Albany, New York. \$2.50 per year. \$4.00 for 2 years. Send directly to them. Also join local garden clubs.

Plant Societies are of the greatest value to amateur gardeners. Some of them issue year books or publications of great value. Others have meetings and lectures. I belong to and recommend those mentioned below but there are many local groups as well as national, not mentioned, that are of great value.

American Plant Life Society. Note mention of this under Amaryllidaceae. **The American Horticultural So.** publishes the National Horticultural Magazine, quarterly, which members receive. This beautifully printed and illustrated magazine covers entire field of horticulture. Send \$3.00, annual dues, to Am. Horticultural So., 821 Washington Loan and Trust Bldg., Washington 4, D. C. **The Midwest Hemerocallis So.**, send \$3.00 to Pearl Sherwood, Atlantic, Iowa. **North American Gladiolus Council**, send \$1.00 to A. Bazdorf, Lincoln Park, N. J.

GARDEN REFERENCE BOOKS

Bailey's Cylopedia of Horticulture. This 3-vol. set of over 3,600 pages describes almost every cultivated plant and has a wealth of culture information. On Orchids alone, this work is most valuable for its descriptions and culture instructions for almost every orchid in cultivation. The same is true for all types of bulbs, plants, shrubs or trees. Price \$35.00. This is the most monumental work in any language on the entire field of Horticulture. It is an ideal gift for a plant lover. Now ready.

Hortus Second (Bailey). A Concise Dictionary of Gardening. This 778-page volume lists and describes nearly every plant offered in catalogs, and some that are not in the Cyclopedia of Hort. It contains only a few culture hints. Both works should be in every garden library. Price \$6.00.

A Southern Garden, by Elizabeth Lawrence, a handbook for the Middle South. A most useful handbook for all gardeners, north or south. Bulbs and all garden plants. 251 pages. Price \$3.00.

Enjoy Your House Plants. Excellent handbook of window gardening by Dorothy Jenkins and Helen Van Pelt Wilson. 238 pages. Price \$2.50.

Begonias And How To Grow Them. Bessie Raymond Buxton. Invaluable in growing all Begonias, including the Tuberous. 161 pp. \$3.00.

American Orchid Culture. Edward A. White. This is a complete handbook of American Orchid Culture for both commercial and amateur growers. Most interesting accounts of Orchid hunting trips, in many lands, are related. 14 beautiful color plates and many other illustrations. A beautiful, interesting, useful book. 276 pp. \$6.00.

Greenhouse Gardening For Everyone. Ernest Chabet. Important factors are noted including correct temperatures for forcing plants, bulbs and orchids. 266 pp. \$3.00.

Tuberous-Rooted Begonias and Their Culture. George Otten, veteran grower of Tuberous Begonias, with 60 years experience. An 88-page book, with 35 excellent illustrations. This is the only book entirely devoted to Tuberous Begonias. Price \$2.00.

Bulbs For Beauty. Charles H. Mueller. 296 pages, illustrated. Experienced gardeners will gain new information about bulb culture from this book. Price \$3.50.

How to Grow Orchids. By Cecil Houdyshel. A 12-page pamphlet, no illustrations, carefully explains requirements of easily grown orchids. Price 25c.

The books are cloth bound and printed on book paper. Postage prepaid. Add 3c for insurance to \$5.00. Sales Tax 2½ % for California customers.

BULBS AND ORCHIDS AS POT PLANTS

Bulbs and orchids are most desirable as pot plants. They may be grown in the living room, kitchen, a light basement room or in a small greenhouse quite as well as in a large commercial greenhouse.

The following bulbs are recommended for forcing in pots: Agapanthus, Amaryllis species and hybrids, Amarcrinum, Anemones, Callas, both white and colored, Clivia, Elisena, Haemanthus, Hymenocallis, Ismene, Lilium, Marica, Oxalis, Ranunculus, Sprekelia, Tulbaghia, Zantedeschia (Calla Lilies).

Nearly all bulbs may be grown in pots. Crinums do well but require a large space. Gladiolus and Watsonias are tall for the purpose, but they are forced in commercial greenhouses.

Plants for pots. Orchids are supremely desirable and any one can grow them. We have had reports from customers who, without previous experience, have grown and flowered hybrid Cattleyas in their kitchen and have grown them on for two or more years. **Billbergias** are unusual, beautiful and easy. **Violets** are easy in a cool room.

POTTING DIRECTIONS

Bulbs bloom better in pots that are not too large. A 2½" Amaryllis will do well in a 6" or 7" pot. Many use a 5" size but I prefer to give as large a pot as will be favorable to flowering. Give larger or smaller bulbs of any sort, pots in proportion to this size, that is, 2 or 3 times the diam. of bulb. Small bulbs may be planted 2" or 3" apart in any size pot.

Most large bulbs, like *Amaryllis*, may have $\frac{2}{3}$ of bulb above surface but small bulbs, especially *Anemones* and *Ranunculus*, should be covered about 1".

Use clean pots. It is advisable to boil and scrub the surface. Even new clay pots should be boiled, or soaked for two days to remove chemicals. Cover the hole at bottom with a piece of broken pot, concave side down. Above this place small pieces of broken pot and gravel. This helps to drain away excess water.

The drainage must be perfect and it is essential that the soil above this drainage material be of a friable texture that permits water to pass thru freely.

The best soil is a rich sandy loam with the addition of plenty of humus. For humus one can combine rotted leaf mould and old rotted dairy manure well broken up and rubbed thru a screen of smallest gauge. For most plants the proportion can be $\frac{2}{3}$ sandy loam, $\frac{1}{3}$ humus.

Fertilizers. Many advise the addition of fertilizer to potting soils. We never use any except the rotted dairy manure and leaf mould and sometimes a tablespoon of bone meal. If new roots come into contact with much fertilizer they are burned. Commercial fertilizer is especially a hazard. When the plants have become well rooted and have made a good top growth, most of them will be helped by using liquid manure. Cover manure with water and allow to settle. Pour off water and dilute further until it is a very light amber, the color of weak tea. This can be used about every two weeks but don't use it on dry soil and thirsty plants.

Sun exposure. Note requirements of plants under listings. For full sun, use a south window. For half sun use an east or west window and add a thin curtain if it proves too much. For *Clivias* and others requiring full shade or only a little filtered sunlight, use a north window or place on a stand at a distance from window, but always give plenty of light and good ventilation, especially in gas heated rooms.

Temperature. Most bulbs root better in a cool room of 45°. There must not be too much water given while roots are starting as it may cause bulbs to rot even when cool. When a bud or foliage shows that growth has started, gradually bring the temperature to about 70° and water a little more. The best temperatures for plants vary. Some like more warmth than others. This is indicated in the special culture directions for these plants.

Probably more failures in forcing bulbs result from starting the forcing process (bringing the bulbs into a warm room with more light) before they are well rooted, than from any other cause.

CATALOG ARRANGEMENT

is by Plant Families, according to their relationships.

In the following lists the **genus** (plu. genera) is mentioned first. After it, the **species** (plu. also species) or horticultural variety is named. The initial of the genus is used for the second and succeeding species. Thus *A.* will stand for *Amaryllis* or *Agapanthus* depending on the genus last named in full. When a person's name in parentheses follows a plant's botanical name, that person is the botanical authority for the name.

THE AMARYLLIS FAMILY—*Amaryllidaceae*

This Family includes the following bulbs, *Agapanthus* thru *The Alliae*.

The **American Plant Life Society** was founded in 1934 as *The American Amaryllis Society*. The interests of the Society have recently been enlarged to include other bulbs and plants and the name changed, but with no lessening in interest in *Amaryllids*.

The annual book, "**Herbertia**," is devoted to *Amaryllids*. It consists of about 250 pages, beautifully illustrated, on fine book paper, and is edited by Dr. Hamilton P. Traub of the U. S. Dept. of Agriculture, the greatest living authority on the *Amaryllidaceae*. Each member receives a copy.

The members also receive the occasional publication, "**Plant Life**," on other bulbs and plants.

Those who grow *Amaryllis* as an interesting and intellectual hobby and who love

their vivid beauty, are invited to become members of the society. The annual dues are \$2.50 per year, which you may send me.

Due to paper shortage, *Herbertia* vol.'s 13 and 14, for 1946 and 1947 are only now being printed. They will be mailed in the near future. If wanted, I suggest you send me \$2.50 each for the volumes wanted. Vol. 12 (1945) is available for the price of \$3.50. Vol. 11, 1944, price \$4.50. Complete sets of volumes 1 to 10 inclusive may be had by members only for \$35.00.

Amaryllid nomenclature. Carl Linnaeus, father of modern botany, made the first, rather complete scientific arrangement of plants according to relationships in the 18th century. His information about many plants was wholly inadequate to achieve perfection. Comparatively few plants were even known. Even in my later first French edition, 1798, nearly all American epiphytic orchids were placed in one genus, *Epidendrum*, and under the genus *Amaryllis* he included certain *Crinum*s, *Zephyranthes*, *Sprekelias*, *Brunsvigias*, *Nerines*, etc. Botany is a progressive science and later explorations and discoveries have made possible many improvements in plant classifications and have required changes in nomenclature. Horticulturists are often loath to accept the new classifications and names. But we must do so even if inconvenient at first. It is not logical to continue an error.

In order that our customers may not order a bulb they already have under an obsolete name, we give both old and new names.

Agapanthus means Love Flower. Blooms in spring and summer. Large attractive umbels, blue or white on tall erect stiff stems. Easy to grow in south in full sun or slight shade, any good soil, and in the north in tubs or buckets, wintered in basement. Delivery any time except for the deciduous variety, *mooreanus minor*, which is delivered in winter to early spring.

Agapanthus africanus mooreanus minor. Dwarf and well suited to pot culture. Blue flowers on an 18" stem. Hardy outside in south where it should have a good garden loam, rich in humus and partial shade. Deciduous but should not become too dry in winter. For pots, on account of the large, long roots which are the plant's chief storehouse of food (unlike most other sorts the rhizome is very small and stores little food), they need a tall pot. It is best to plant 3 or more in an 8" pot. 50c ea. 3 for \$1.35. 5 for \$2.00. Per doz. \$4.50.

A. longispatus. New species. Flowers resemble *Orientalis* but blooms more profusely and is more graceful. 50c.

A. orientalis (umbellatus) Blue Lily of the Nile. Our variety is an especially fine one with deep blue flowers on a tall stem. Many flowers are produced in spring and thru summer. 50c ea. Extra large roots, 75c.

A. orientalis, "Sky Blue". Lovely light blue. 75c ea.

A. orientalis, var. Albidus. Has pure white flowers. \$1.00 ea.

Amarcrinum Howardii. (*Crinodonna Howardi* is the better name.) A cross between *Brunsvigia rosea* (*Amaryllis belladonna*) and *Crinum moorei*. Flowers are a pure pink and very attractive. As it is a winter bloomer and profuse it is a valuable bulb for a large pot. Moved in the spring, it will bloom the following winter. \$2.50.

Amaryllis Linn. This genus as constructed by Linnaeus was untenable because he included plants now known to belong to other genera. The invalid name *Hippeastrum* was used by both Herbert and Baker, but now we are scientifically correct when we use the name that has always been most popular. To the word "*Hippeastrum*," literally translated "horse star" we can now say "horse feathers," and forget the word.

Amaryllis are the easiest, the most showy and popular of all bulbs for growing in pots. Equally desirable for southern gardens where they are hardy along the east coast to N. Car. and on the west to Vancouver. In the middle section they may be grown as far north as Ark. and Okla., but note special directions for colder sections.

How To Grow Amaryllis. In the garden, in the deep south where temperatures go only a few degrees under freezing, *Amaryllis* bulbs need to be covered only about an inch or two. Farther north they should be planted about an inch below frost penetration, in protected places and mulched with straw, leaves and/or brush. In Okla., a customer

reports a depth of 4" with mulch is safe. Let 6" and in sandy soil be the limit, preferably less. Why not mound them over with soil and mulch to be removed in spring?

In Pots. A bulb 3" or less in diam. needs a 7" pot, and larger bulbs need larger pots. It is better to pot in Nov. or Dec. Better blooms result. But one can pot them as late as March and it is better late than never. The early potted bulbs will start more easily and give better flowers, but in either case the flowers will be better and will show more fully their full quality the second year.

The best potting soil is a rich sandy loam. If not sandy use a friable loam and add sand. To this add an equal quantity of well screened and well rotted dairy manure and leaf mould. Use no fresh or partially decayed manure and no peat or sphagnum. One tablespoonful of bone meal to each pot is recommended. Mix all ingredients thoroly.

In potting the bulbs, carefully preserve any living roots, even remnants. Clean but do not scrape the base of the bulb and dust the moistened surface of base and the roots with Rootone. If there are no roots, coat base of bulb with Rootone, which will hasten their formation.

Pot the bulb two-thirds above surface and water well. After this keep the soil only slightly moist until growth starts, then gradually increase. When first potted set them in a cool, light room but not in sunlight. The best temperature now is not over 50°. The bulbs must have sufficient time to form a good root system under these conditions. If placed in a warm room and exposed to the sun, top growth will be made before roots, and the results are poor flowers or none.

When you are sure that roots have formed, but not before, water the plants as directed with Vit. B-1. But be sure to leave the bulbs a sufficient length of time in a cool room. They need this period of dormancy and sufficient time to make a good root system. Many fail because they try to force the bulbs before they have rested and have made good roots. If you get a poor flower it may be because the bulb had no roots and had only the sustenance stored in the bulb from which to make flowers. Lack of a good root system to nourish the flower will affect the quality of the flower in every way—size, substance and even color. So, don't remove pots from the cool room too soon. Wait until they demand it by top growth. Then bring the pots by easy stage to a temperature of 50°, 60°, then about 65°. Day time temp. should never be much over 70° for best blooming.

After flowering the bulb has shrunk and a long period of growth is necessary. If good growth is made at this important stage, the bulb will become much larger and offsets may be made. Keep them growing as long as possible. When the weather is warm outside the pots may be plunged in the garden. If rim of pot is sufficiently below soil surface the roots may emerge and add range to the root system. Or better still, shift the bulb and the unbroken lump of soil to the garden. Water liberally during growth and when in good growth use manure water or mulch with manure. This is good advice for pot grown bulbs as well, but don't give heavy feeding to a sick or starved bulb. Plants, animals and people must have enough vigor to digest and assimilate food. If they do not have this, it becomes a poison.

Keep the bulbs growing as long as they will grow. When the foliage begins to yellow, about Nov. usually, one may reduce water, and give them a rest. Store pots in a cool room as for starting.

Usually the summer's growth will have increased the size of the bulbs sufficiently to require shifting to a larger pot. The new pot should be large enough to accommodate all the roots. Do not remove or injure any of the roots and contrive to distribute them thruout the soil.

When repotted, water at once to settle soil around the roots. Thereafter they should receive very little water, only enough to prevent drying out and loss of roots. They should remain in a cool room. They need a period of rest, altho leaves do not always die back. When growth begins, start again the natural spring time change to higher temperatures, repeating the procedure followed when you planted the dry bulbs. But your bulbs are now much better bulbs. They are not dried out and they have or should have many roots. If kept too wet or too warm while dormant, the roots may rot. But

if you handle the bulbs carefully you may expect more, larger and better flowers the second year. With experience you may become skillful in having bulbs bloom even by Jan. 1 and others up to May 1.

I am frequently asked why the inquirer's bulbs do not flower. Perhaps they have flowered the first year after their purchase but not thereafter. Some state their bulbs become smaller each year. These results inevitably follow wrong culture. Flowers in the spring are sure to result if good growth was made in the preceding period. If you have trouble in getting good growth in pots, be sure to try shifting to the garden after flowering.

How to judge the quality of the flowers of Amaryllis hybrids. The perfect flower of the Leopoldi type should be 5" to 8" across. The petals should be well rounded and broad, overlapping each other, no twisting of petals, and they should form a wide open, flat flower. The texture should be smooth and firm, of good substance. The tube should be short. There should be little or no green in throat but as the species Leopoldi contains considerable green there are few hybrids that do not contain some green. Very few are perfect in any respect.

There should be no dull colors, like brick red. But colors should be bright and of every imaginable tone within the range of this genus.

Self colors are desirable to go along with stripes and other variations. But it is difficult to get other than red selfs and these are unusual. A few of our Select Strains, American Hybrids are pure red, scarlet, rose or pink selfs. But they are few and not separately labeled. Don't order self colors or any colors except as listed.

Please note. There is no quantity discount on Amaryllis except as noted with listing.

Amaryllis advena. Oxblood Lily. 5 to 8 ox-blood red flowers in an umbel, on a 10" slender scape, preceding foliage. Fall bloomer. **Culture.** Not suitable for pot culture, but so nearly hardy that in mild sections of north it will succeed. In Michigan, in the section where peaches are grown, this Amaryllis has been grown commercially. It may be planted 6" deep and mulched, in a protected situation. Full sun exposure, heavy or medium loam soil is good but does well in lighter soils also. Price 50c ea. \$5.00 doz. Delivery late June.

A. psitticina. Species from S. Brazil. Large bulb and plant. The large flowers have green tinted throat with carmine lines radiating to the carmine edge of petals. The effect is of a very pretty red Amaryllis. Here this species flowers in winter and is a free bloomer. Price \$6.00 ea.

A. Hybrids, Select American Strains. These are the best American hybrids, of Leopoldi ancestry. Many Amaryllis sold are chance seedlings grown from seed collected in the field. These are likely to produce the sturdiest bulbs. From a vegetative standpoint they are the best. But for the most beautiful flowers, breeders select the best parents having the most beautiful flowers, grow them in a greenhouse and cross them by hand. Our Select Strains are produced thus.

Color Classes. These are named from the parents. When they first bloom, off colors are removed or "rogued" out. They are again rogued the second year. Nevertheless, the color classes are only approximately correct. Many off colors are missed when rogueing. There is also a wide difference in opinion as to color. One calls a flower pink. Others may call it rose. Therefore, we do not guarantee the color but we do exchange them if the customer is not satisfied. Seldom, however, is a customer willing to part with a bulb of this strain, even tho it be an off color. The following color classes are as selected and named by the originator. When you get a wrong color and do not wish to keep it, notify us at once and await instructions.

Select American Strains. Assorted Colors. 2½" diam. up. We are very short this year on bulbs of this size and of which we sell the most. We will offer them only in assorted colors. They are as good as the named colors. This size gives one and sometimes two flower scapes. As far as possible we will send bulbs that have not been dug over one month and will therefore have from a few to many living roots. These should be worth a little more than our October dug bulbs, which have fewer living roots when shipped in Dec. to later dates. \$1.00 ea.

Specially Priced Large Bulbs, Select Strains

To make up for the lack of 2½" bulbs we are offering bulbs from 2¾" to almost 4" at most attractive prices. The 2¾"-3" size will usually give 2 flower scapes; 3"-3¼" are reasonably sure for 2 or 3 scapes; 3¼"-3½" for 3 scapes and the 3½"-4" size often give more than 3 scapes. There is no formula by which one can determine the exact number of buds within any bulb but they are as good as the above description on an average.

In addition to producing more flowers, the larger bulbs also produce larger flowers, usually a little earlier and they produce more offsets or small bulbs for propagation.

Since we sold out our Oct. dug bulbs early, we propose to dig about every two to four weeks for the Jan. to Apr. 1 orders. Thus you will have better roots than usual and our winter and spring deliveries should be as good or better than the usual fall deliveries.

Prices, Assorted Colors. Select Strains. 2¾"-3", \$1.50. 3"-3¼", \$2.00. 3¼"-3½", \$2.75. 3½"-3¾", \$3.50. 3¾" or over, \$4.00.

We have these larger bulbs in Red, Scarlet, Rose and White Background. If you name the color, the price will be 50c more than above prices, per bulb. There will be very few bulbs over 3½" diam. If we run out, we will substitute the next smaller size and refund the difference.

Select Strains, Near White. There is much less color in these than in the White Background. Large bulbs, \$5.00 ea. Over 3" diam., \$6.00.

A. American Hybrids, Assorted Colors. Good Amaryllis from various sources. Not dime store quality. Blooming sizes, 50c. Large, nearly 3" or over, 75c ea.

A. Ambigua Hybrids. These are A. ambigua crossed and recrossed with White Backgrounds. They are not especially an improvement except that they are rather more sturdy, tall and some are fragrant. They are rather late bloomers and thus extend the season. Most of these are White with usual markings. \$1.00 ea. Extra large bulbs, some are near 3½", for \$1.50 and \$2.00 ea.

A. Rutila Hybrids. An extremely vigorous, rapid growing and multiplying strain. Equally prolific with flowers. Similar in color, orange scarlet with white throat and green keel. An ideal strain for outside planting and landscape effects. Their bright, vivid color "hits you in the eye." Altho not an exhibition type, many will like them in pots. Their vigor also recommends them for planting on the border line for their hardiness as in Okla., Ark., even So. Kan., etc., where winter temperatures do not go much below zero. Don't plant over 4" or 5" to top of bulbs in a protected place and before ground freezes more than a crust, mound over with earth and mulch with brush and leaves. Price, top size, nearly 3" and up, 75c ea. \$7.50 per doz. \$50.00 per 100, prepaid.

Special. To encourage the use of this hardy strain for landscape use, especially in the border line areas, we make the following special offer on bulbs shipped by express, f.o.b. 25 bulbs for \$12.50. 100 bulbs for \$35.00.

A. Diener's Posthumous Hybrids. Diener made the crosses, collected and planted the seed of these in the last year of his life. They are probably his best. Since these are hybrids of A. belladonna Linn. type they differ from the Leopoldi type in having longer, more narrow and pointed petals. The flowers are very attractive and mostly in scarlet and salmon shades tho some are near white. They make much smaller bulbs and I've seen bulbs only 1½" diam. send up a flower spike. Assorted colors only, \$2.00 ea.

A. Sibyl Houdyshel. Recently we have been unable to list this, as all large bulbs were sold out. This spring we can offer only 25 large bulbs, fresh dug. This is a Burbank origination, purchased by me in 1912. It seems to be the only one of his many Amaryllis originations that has been named and introduced. The flower is a White Background, marked with a pink line in border of petals, flushed pink and with a few vittate markings of pink. Price \$6.00. Jumbo size \$7.50.

Amaryllis Seed. We are unable to produce enough seed for our own planting. It

is far better anyway for you to grow your own seed as that which you buy is often too old. Amaryllis seed should be planted shortly after ripening and drying. One year old seed is unlikely to grow in a good percentage.

Plant Breeding is an interesting science and art. Undertaken as a hobby, it has often resulted in fame. It will involve and develop great skill, ideals of beauty, good taste and intelligence. I suggest you start with our Select Strains. Get several bulbs and use the pollen only from those you like the best. Cross pollination is easily accomplished by placing the powdery pollen borne by the six stamens on the stigma in the center. The stigma when ready for pollen will usually be opened into three parts. When the seed pod is ripe it bursts open and may be removed and dried. Plant the seed (soon) in a fine sandy loam containing plenty of humus. Do not use peat. Cover seed about $\frac{1}{2}$ ". Seedlings may be grown in pots in house or greenhouse where they will continue to grow all year without a dormant interval until they flower. Usually this requires 2 to 3 years. In the warm south they can be grown outside under the half shade of lath. But frost usually destroys foliage in winter and cool nights interrupt growth, slowing development.

Brunsvigia rosea (Sym. Amaryllis belladonna, Aitson). Familiar in Calif. and the south as Amaryllis belladonna, Naked Lady Lily, etc. It is hardy where minimum winter temperatures are about 10° above zero. They do not succeed in pot culture.

The many flowered umbels are of the most exquisite pink and the most entrancing fragrance. Only in the rose and the Belladonna Lily does nature assemble these two qualities in one flower in such perfection.

Since Brunsvigias begin to flower in late July it is far better to order from our spring catalog. We then deliver in July. When ordered in the fall, one is very likely to lose the first year's bloom.

Brunsvigia rosea major. Earliest to flower and largest. Fragrant, pure pink flowers. A favorite florists item. M. 35c. L. 50c. Blooming sizes, \$15.00 per 100, f.o.b La Verne.

B. rosea minor. Flowers pink with light throat, in Sept. - Oct. 50c.

B. rosea var. Ethel. Very dark rose. Very beautiful. \$2.00.

B. rosea Parkeri. This type originated at Kew Gardens and was later developed and probably improved by a Dutch grower. It is probably a hybrid between B. rosea and another Brunsvigia species. We offer seedlings of our original importation that are variable in color, ranging from medium to dark rose. \$2.50 ea.

B. rosea, var. Hathor. This is an Australian hybrid between rosea and another species. The large flowers are pure white tinted cream in throat and are very rare. \$10.00 ea.

Chlidanthus fragrans. Golden yellow flowers in spring. Entrancing, spicy fragrance. Three or four flowers in an umbel on a 10" scape. Plant 3" deep, in full sun. They like to be crowded whether in garden or pots and when bulbs fail to flower freely it is often because the bulb's entire energy is spent in vegetative increase. Remedy, don't divide clumps. Let them become crowded or pot bound.

Altho cheap, this is one of the most desirable bulbs for southern gardens. In the north it can only be grown in pots. It should be potted as soon as received but start it into growth slowly. 25c ea. \$2.00 per doz. Planting stock, small bulbs, some of which may flower, 50 for \$4.00. Gardeners in the south should order these in quantity.

Clivias. Altho easy to grow and to flower by the amateur they will always be classed with the aristocrats of flowering bulbs, because the flowers easily place them there. They increase so slowly by division that the chief method must be thru the freely produced seeds. But Clivias require at least five years and usually seven, to flower from seeds. This time involves expense. They can never become very cheap.

Clivias have evergreen, strap-like foliage somewhat resembling that of Amaryllis. The flowers are produced in umbels of 10 to 25, in rich and exquisite tones of orange, in March and April. When not in flower the deep rich green foliage and later the red fruits are most ornamental.

Culture. They are usually grown in pots, even in the south, as more perfect foliage

is thus possible, and when in flower one wants them in the house. We grow them in a lath house, lath spaced $\frac{1}{2}$ " apart, and in garden under Avocado (evergreen) trees, directly in the soil as they are often grown in Calif. When grown thus they will make very large clumps. They must have shade with only a few flecks of sunshine, but plenty of light and air.

Clivias must never be dried off or allowed to lose their foliage. Keep them well watered after flowering, all summer and fall. Liquid fertilizer occasionally helps. When growth ceases in late fall rest them by giving them less water. But keep moist enough to prevent wilting of foliage. At this time they should have a cool room with temperatures from above 32° to not much over 50°. Pots should be 8" for a small plant up to 12" for larger. As they grow and increase, do not divide but shift to larger pots. Drainage must be perfect. Potting soil is described under "General Culture Directions." pH 7 is about right. One cannot guarantee a Clivia to flower the first year after moving tho they usually do.

The foliage of our Clivias, grown outside in the ground, will not be as perfect as that of pot grown plants. But when potted, they replace the old foliage in a few months and become specimen plants.

Clivia miniata. Wide open flowers of soft yellow orange. Hardest, \$3.00 ea.

C. miniata hybrids. Similar to the species "miniata" in foliage, hardness, wide open flowers, etc., but there is some variation in color and form of flower. Most of them are in light orange tones. A few are dark and a few have a white throat. Do not express your color preference for any Clivia hybrids as we cannot tell the color from the plant. Blooming size, \$4.00 ea. Smaller plants, \$1.00 and \$2.00 ea.

C. nobilis hybrids. Again we can offer a few. These have wider foliage and are less tapering at tip. The flowers are larger, with more rounded petals and many are darker red-orange in color. Blooming sizes, \$7.50 ea.

Budded Clivias. One cannot guarantee a Clivia to flower after moving unless already showing a bud. Then when moved, the plants are sure to flower. Prices of Budded Clivias, **C. miniata**, \$3.75. **C. miniata hybrid**, \$5.00. **C. nobilis hybrids**, \$9.00.

Clivia seed. **C. miniata** and **miniata hybrids**, 25c ea. Plant in a box or flat, in a soil of sandy loam and leaf mould or peat. Just press seed down on the surface. Cover with pane of glass and set in full shade. Keep moist.

Crinums are large bulbs and plants. They are indispensable in southern gardens for landscape effect among shrubs and trees. The flowers are useful for cutting and should be grown by all florists who must grow their own flowers. Only **C. longifolia** is quite hardy. **Crinums moorei**, **Powellii alba** and **Cecil Houdyshel** are only a little less hardy and can be grown up to southern Ohio, Mo. and Kan., if planted deep.

Grown among trees and shrubs, in combination with Daylilies, true Lilies (*Liliums*), etc., one has a permanent planting that need not be dug up or divided for many years. Other bulbs like colored Callas (also shade loving) that are usually dug and stored in winter may be interspersed. All the above thrive with any good soil. A heavy mulch of manure during summer is excellent for **Crinums** and as a mulch you can use any kind and even fresh, rather liberally but experiment as to the amount.

In the deep south, plant **Crinums** shallow, only a few inches deep. In the north deep planting up to 8" or more is necessary for the hardier sorts as the bulbs must not freeze. Altho they like a little shade, nearly all do well in full sun, except **Moorei**, which must have shade.

Crinums succeed in pots or tubs, but they are too large for small quarters. The pots may be stored in basement over winter, placed outside in summer.

Crinum asiaticum. Very large bulbs, plants and flowers. The flowers are pure white, fragrant and resemble a spider lily. For deep south, or greenhouse, in lg. tubs. \$4.00 ea.

C. campanulatum. Belongs to the "Milk and Wine Lily" type. That is, the flowers are white with a bright rose stripe thru center. \$1.00.

C. Cecil Houdyshel. Flowers, deep rose pink. One of the best hybrids, all qualities considered. It is the same cross as *C. Powellii* but is much larger, more robust and instead of flowering in but a limited period it is almost a perpetual bloomer. Large bulbs often produce 7 or more flower scapes in a year, the most profuse of all. We have to move our planting of these and offer temporary lower prices this spring. Small bulbs, \$1.00. Blooming size, \$1.75. Very large bulbs, \$3.00.

C. Ellen Bousanquet. Most outstanding. It is most surprising to see a *Crinum* with such dark, glowing wine red flowers. Very vigorous and easy. Jumbo \$1.50. Large \$1.00. Medium 60c ea.

C. erubescens. "Milk and Wine" type. The center stripe is red-purple. 50c ea. Jumbo \$1.00.

C. H. J. Elwes. Pink flowers of unusual beauty. \$4.00.

C. kirkii. One of the most desirable of "Milk and Wine" type. White flowers with red center stripe. The large umbels have many flowers open at one time. 75c ea.

C. longifolia alba. (Syn. *Capense alba*.) White lily-shaped flowers. This is the hardiest species, surviving the winters with protection if planted deep, as far north as Ohio. Better than "rosea." 50c.

C. Louis Bousanquet. Very free flowering thru an unusually long season. Pink flowers on a very tall, erect scape. \$1.00.

C. moorei. Large pink, bell-shaped flowers in the fall, freely produced. The long neck of the bulb surmounted by rotated leaves gives the plant great decorative value. Requires shade. Nearly as hardy as *longifolia*. \$1.00 ea.

C. powelli alba. Extra fine pure white. One of the most valuable and beautiful *Crinums*. 50c ea. Jumbo \$1.00 ea.

C. Virginia Lee Seedlings. We have not had enough stock of Virginia Lee or of its seedling Gordon Wayne to list for several years. This lot comprises seedlings as far removed as the fourth generation but are all similar. They range in color from pure white to heavy pink markings. All are as good and some are better than Virginia Lee. While much like Virginia Lee they must not be given this name. The buyer is entitled to name them if desired. They must be grown in the shade. Price \$2.00 ea. Small bulbs 50c and \$1.00 ea.

Elisena longipetala. Very rare and lovely Peruvian amaryllid. It is related to the *Ismene* but the pure white flowers are far more delicate and graceful. Culture like *Ismene*. It can be forced in pots or grown in the garden in summer. Bulbs stored over winter like Glads. It is hardy in the middle south. This fine, rare bulb should be in every collection of unusual bulbs and we offer at the still further reduced price of \$1.50 and \$2.00 ea. this spring.

Habranthus. Formerly considered as a subgenus of *Hippeastrum*. When this genus was reorganized, most of the species were placed in *Amaryllis* and this subgenus became the genus *Habranthus*. Usually they have a one flowered scape. The culture is about the same as for *Amaryllis advena* as they are usually fall bloomers and winter growers.

Habranthus brachyandrus. The long tubular flower is very striking in color, lavender pink with a deep purple throat and is quite large. They begin to flower in late summer and continue into the fall. Hence should be ordered early. 75c.

H. rubustus. Baker says the flower is rose red. It appears lavender pink to me. 25c ea. \$2.50 per doz.

Haemanthus. This south African genus is very rare in cultivation. Very few have ever seen one. They are hardy only in an almost frost-free climate like So. Calif. or Florida. In their habitat, the following grow in cool, moist forest glades where there is little sun but plenty of light and where light breezes keep the air in motion.

Culture. They should be grown in pots except in climates like Florida and So. Calif. The soil should be equal parts of loam, coarse sand and peat or leaf mould made thoroly fine. Drainage should be perfect. A tablespoonful of bone meal to each pot is useful. *H. Katherinae* should be planted about 3" deep; *puniceus*, *coccineus* and *carneus* covered about 1" to 2". The bulb of *albiflos* may extend about half above soil surface. An abundance of water at all times when growing is required but rather on dry side

during late winter dormancy. But not too dry. When bulbs are received pot at once and water. Do not water much before growth starts. Altho a little warmth favors earlier growth and flowers it may be easily overdone.

Haemanthus Katherinae. The bright red flowers fill a large rounded umbel often 10" or more in diameter. I have counted nearly 125 in an umbel. The broad banana-like foliage droops gracefully into an umbrella form. Scarlet seeds follow the flowers. A plant in flower is an unforgettable sight of tropic beauty. The entire plant is of quite large proportions, the foliage and flower umbel reaching a height of 30" to 36". Introduced from Natal in 1877, they are yet very rare. Give them a 14" to 16" pot or tub.

Katherinae is almost evergreen but usually tops either die or decline in January. We can move them between January to March but if wanted you should order at once. Price \$10.00 ea. Largest bulbs \$12.50.

H. albiflos. A rare species. Quite unusual too in appearance. There are 2 to 4 wide, short leaves, semi-erect and evergreen. In the fall a very curious flower umbel, paint brush shaped, appears with 75 or more white flowers in a dense head. Pot the bulbs with most of bulb above soil surface. Do not give much sun as foliage burns easily. \$3.00 ea.

H. coccineus. Blood Lily. Produces about 2 large leaves, semi-prostrate. Winter growing, fall bloomer. Scape with red spots on green background is part of floral display. These are followed by red fruits. Seed are easily grown, like Clivia seed. \$3.00 ea.

H. carneus. The two leaves are prostrate. The flowers are larger and less numerous than in *H. coccineus* and are flesh colored and are not striking in appearance. The growth habits are similar. \$3.50 ea.

H. puniceus. Evergreen plant with very attractive foliage. The leaves are very vivid green, wavy edged with spotted petioles. Scarlet flowers in spring in umbel similar but smaller than *H. coccineus* and followed by red fruits. \$3.50.

Hemerocallis. Daylily. The flowers range in color from dark bronzy red, thru pastel tones of pink to orange and yellow. They are borne on a branching scape well above the foliage.

The Greek name, meaning "beautiful for a day," refers to an individual flower. But these are so freely produced, thru a long period, that "beautiful every day" would be more apt, as a collection of several sorts show masses of flowers thruout the spring, summer and fall and here we often have some winter flowers. The modern sobriquet of "The Perennial Supreme" is well deserved.

Culture. While their beauty is their greatest recommendation, their easy culture and hardiness add to their desirability. I have known abandoned plants here, where we have arid, hot summers, to persist for years. They grow well in full sun. Slight shade is better. If given constant moisture about their roots, preserving this and coolness of the earth with a good mulch, the plants are ideally situated and respond with generosity. They are hardy even in severe winters in the north. They are fibrous rooted, not bulbs, and must be planted at once when received. Altho they can be moved any time, it is better to ship from late fall to early spring.

They should be used more extensively in permanent borders and landscapes. Plant them along with Crinums and shrubs. Both Crinums and Daylilies are as permanent as the shrubs and seldom need thinning. Both can use top dressing of manure.

In Daylilies, the sepals are colored and petal-like and are an essential part of the floral display. Approximate flowering dates are given.

Hemerocallis Araby. A lovely pastel color, with the effect of bronze on gold dust. 30". \$3.00 ea.

H. Bagdad. Coppery red over orange veins. Mid-zone of madder brown. Very striking large flowers. 3 ft. June-July. \$1.00.

H. Calypso. Large, fragrant lemon yellow flowers. Opens in evening. 42". June-August. 40c ea.

H. Cecil Houdyshel. A Dr. Traub origination. A deep crimson, with an old copper shade that makes it outstanding in our garden. Slight shade gives better color to flowers. 3 ft. June-July. \$3.00.

H. Chengtu. Brilliant coppery orange-red with carmine mid-zone. 3 ft. July-Sept. 50c.
H. Cinnabar. Cinnamon sprinkled over orange, gold-glistening. 30". July-Aug. 60c.
H. Crown Prince. Color like Mikado. 30". June-Aug. 25c ea. Per doz. \$2.25.
H. Dauntless. Cadmium yellow. Fulvous red blended in mid-zone. Pastel effect. 30". June-Aug. \$1.00 ea.

H. Florham. Still popular old hybrid. Large, golden yellow. May-July. 50c.

H. Florida. Pastel shades. Light chrome yellow with rose blush. Darker mid-zone. \$2.50.

H. Fragrance. A fine deep yellow. Fragrant. \$2.00 ea.

H. Kwanso. The Double Orange Daylily. 25c ea. 3 for 50c.

H. Linda. Petals, ruffled golden yellow, flecked with cinnamon, and a rose zone. Sepals, pure yellow. Very lovely. \$1.50 ea.

H. Margaret Perry. Brilliant orange-scarlet. 4 ft. July-Aug. 35c.

H. Mikado. Orange with mahogany-red zone. A favorite. 3 ft. May-July. 50c.

H. Nubiana. Dark chocolate-red with yellow stripe in petals. One of the darkest varieties. 2 ft. \$4.00 ea.

H. Patricia. Pale yellow. Large fragrant flowers. 30". July-Aug. \$2.00.

H. Radiant. Rich orange. 42". June-July. 50c.

H. Rajah. Deep English red with darker red veins. Garnet red eye-zone. 40". July-Aug. \$2.00.

H. Rosita. Near carmine-crimson with coppery red tone. 36". Part shade preferred. \$3.00.

H. Rosalind. Superior clon of *H. fulva rosea*, famous pink Daylily. A very delightful pastel shade of rosy pink. \$3.50.

H. Serenade. Rose-fulvous markings on apricot cream. Faintly overcast darker. 4 ft. June-July. \$2.00.

H. Sibyl. Dark purple-red petals, lighter sepals. \$3.00.

H. Soudan. Lemon yellow. Broad wavy petals and sepals. 3 ft. June-July. 50c.

H. Spitfire. Seems never to quit blooming in spring, summer and fall. Fiery red with yellow midrib, yellow throat. Small flowers but in great profusion. 2½ ft. \$1.50.

H. Vesta. Deep orange with glistening gold sheen. 30". May-July. \$1.00.

H. Vulcan. Dark maroon-red. 30". July-Aug. \$2.25.

H. Wau Bun. Large apricot flowers, sprinkled fulvous red. The twisted and curved petals add to its beauty. \$2.00.

Hymenocallis. Spider Lilies. The true Spider Lilies. Pure white with long narrow petals and long stamens, giving a fancied spidery appearance. **Culture.** They are hardy in the south and may be planted deep on the border-line as in N. Car., Okla., etc. They do exceptionally well in pots. In the north they can be grown in the garden, but they must be dug in the fall and stored over winter like Glads.

Hymenocallis sp. Tropical Spider Lily. This is a large species, with pure snow-white flowers over 7" wide. It is evergreen in frostless locations. 50c ea.

H. Harrisii (Harrisiana). A small, deciduous Spider Lily. Flower stem not over 12" tall. Hardy as far north as Washington, D. C. Rare. \$2.50.

Ismene. These are closely related to *Hymenocallis* and were usually classified under that genus until recently. Most botanists now give the *Ismene* generic standing.

Culture. They can be grown anywhere in the U. S. or where Glads can be grown, in the garden. In the colder sections of the north, dig the bulbs in the fall and store like Glads. In the middle south, plant 6" deep and mulch well over winter. In the deep south they are quite hardy.

It is very important to store *Ismene* in a warm room. The storage temperature of 55° is safe and 70° is still better. Chilling may cause flower buds to blast or the bulbs to rot. I have found no advantage in leaving old roots attached. April delivery in the north, or earlier. Feb. delivery in the south.

Ismene calathina. Peruvian Daffodil. Large white, very fragrant flowers, tinted green. As in *Hymenocallis*, the stamens are joined by a membrane to form a cup. This

is a much larger cup in *Ismene* and bears a resemblance to the daffodil's cup. 35c. \$3.50 doz.

The following are improved hybrids of the *Ismene*. Every one is a worth while addition to your garden. We are making their purchase more attractive to you by considerable reductions in the prices.

I. calathina, var. festalis. An *Ismene-Elisena* cross of great beauty. Pure white and very graceful. \$2.00.

I. calathina, var. Olympia. The largest *Ismene*. Cream to light yellow. \$2.00.

I. calathina, var. Sulphur Queen. A cross of *I. calathina* and *I. amancaes*. Sulphur yellow, very deep when it first opens. 75c.

I. macleana. Our smallest *Ismene*. The bulb and plant are a little smaller than *I. calathina* and produce several slender 12" scapes with diminutive *Ismene* flowers that are nice in arrangements. Rare. Special price, 25c ea. \$2.00 doz.

Lycoris are natives of Japan and China. A few of them are now scarce because none can be imported. Most of them are winter growers.

Culture. The species *Radiata* do well in any good garden soil containing humus. All *Lycoris* prefer neutral or mildly acid soil and for *Aurea* especially one should incorporate some peat in the planting furrow. *Aurea* also much prefers a sandy soil and liberal watering when in growth. Delivery summer.

Lycoris radiata. Red Spider Lily. Coral red flowers in a several flowered umbel in Sept. Flowers are followed by the foliage. Flowers have narrow undulate petals and long stamens which give the "spidery" appearance. This is a common flower in the south and one of our most beautiful. Hardy along coast to North Carolina and on Pacific Coast to Vancouver. In pots it flowers only the first year. 35c ea. Largest bulbs, 50c ea.

L. aurea. Golden Spider Lily. This is the famous Hurricane Lily of St. Augustine, Fla. It is one of nature's most beautiful flowers, but rare and expensive. They must be ordered before Sept. 15 as they bloom very early. Hardy only in deep south. \$2.50.

L. squamigera. Amaryllis Halli. The hardy *Amaryllis* that resembles *Brunsvigia rosea* (*Amaryllis belladonna*). \$1.00 ea. Order before Oct. 1.

L. purpurea. Close to *squamigera*. The purplish flowers have vivid blue markings. Perfectly hardy in north. Rare. Medium size bulbs, \$3.00.

L. albiflora. This so-called white is flesh colored and apparently has some markings. But it is good and is extremely rare. Not hardy. \$5.00 ea.

Nerine. This genus is seldom seen in America, altho it is one of the most beautiful and varied of the *Amaryllids*. They bloom in succession from Aug. 1 thru January. They are hardy only in the south where temperatures seldom go under 26°. But they are one of the finest pot bulbs. **Culture.** Pot or plant in mildly acid to neutral soil. Sandy soils are more likely to be acid and drainage is better. Use peat or leaf mould to bring soil to pH 6.5 or 7. Alkaline soil is the most frequent cause of failure. Pot bulbs at once with bulb well covered and 2" to 4" deep in gardens. Full sun. When foliage yellows withhold water.

Nerine Bowdenii. 10 or more flowers in an umbel 9" wide on a 15" scape. The finest of all and of easy culture. Delivery Jan. to July, sometimes later. \$1.00 and \$1.50 ea.

N. filifolia. Lovely small *Nerine* with evergreen thread-like foliage. Carmine pink flowers on 12" stem. A dozen bulbs may go into a 6" pot. Bloom in Sept. Delivery, any time. 20c ea. \$1.75 doz.

N. massonorum. Earliest, often mid-July. Foliage like *N. filifolia*. Flowers resemble it but smaller, on a shorter scape. Very long spathe. Delivery any time. 35c ea.

N. rosea-crispa. Hybrid of *Filifolia* but larger in all parts. Can be kept evergreen or dried off. Summer delivery. \$1.00 ea.

N. undulata. Rose pink. Petals with crisped edges. Summer delivery. \$2.00.

The flowers of the last two are much alike and so much like certain other species too that if you can't tell them apart don't accuse us of error.

Sprekelia formosissima superba. The Orchid Amaryllis. Deep crimson flowers in orchid-like form. This variety is much larger than the common type, better color and more flowers. Unlike the type, this var. "superba" is evergreen. A desirable bulb for

pots. **Culture** like Amaryllis. Largest, 75c ea. Large, 50c ea., postpaid. **Special.** This is a fine Amaryllid for landscape use in the south. In the middle south it can be planted 5" or 6" deep and is hardy with an added mulch. For this spring, we can offer 25 bulbs for \$8.00. 50 for \$15.00 postpaid, 100 bulbs for \$20.00, by express, f.o.b. La Verne.

Tulbaghia violaceae. Small cousin to Agapanthus. Mauve flowers produced thruout the year, a true ever-bloomer. Foliage has garlic odor if bruised. An acquisition for pot culture. 25c ea. 5 for \$1.00. \$2.00 per doz.

Zephyranthes. Fairy lilies. The smallest Amaryllid, 6" - 12" tall. Fine in beds or borders. Hardy in middle south. In north dig and store. They may be grown in pots. Give acid soil, sandy loam with leaf mould.

Zephyranthes candida. Often called white Crocus. Best pure white. Evergreen. Very easy. Flowers profusely giving a bed with a snow white coverlet from mid-summer to early winter. 3 for 25c. 75c doz.

The Alliae. This group is now placed in the Amaryllis family. Sandy loam is preferred. Do not add too much leaf mould and no peat, as very acid soil is not good. Plant about 2½" deep. The species Allium are onions and should be grown in full sun unless noted.

Allium Schoenoprasum. True Chives. Lovely little plants with lavender flowers, used for edgings in the flower or herb garden and add zest to salads. 10c ea. 3 for 25c.

A. tuberosum. Oriental Garlic. A pretty Allium with white flowers. An ornament in the garden, indispensable in the herb garden. Leaves give a most delicious flavor to salads without the long-lasting high-powered after effect of garlic. In north, winter the plants in pots. Plants 25c ea.

A. ampeloprasum. Spanish garlic. This was introduced by Burbank as "Elephant Garlic," because of its large size as a plant and bulb. We believed it to be a horticultural variety of A. sativum but Dr. Traub has recently identified it as here listed. The name is changed but the flavor remains for it is the largest, sweetest and juiciest garlic, easiest to peel and is a fine ornamental for the herb garden as it has a 30" flower spike. Price reduced. Bulbs 3 for 10c. 35c doz. until Mar. 15.

IRIS FAMILY—Iridaceae

The Iris is the type plant of this family which also includes Gladiolus, Marica, Tigridia and many others that are listed in our Fall Catalogs.

Tall Bearded Iris. The old fashioned name was Iris Germanica, or simply Flags. We thought them lovely, but modern Iris, with their infinite colors, markings and blendings, are scarcely recognizable as their descendants.

Iris may be moved at any time of year, when weather permits digging and replanting. The best time is soon after they are thru blooming. That is May-June in this climate. You may order at once and we will send them now or if you so specify we will send them after flowering, a better time.

Culture is most easy. Plant with roots spread out and rhizomes barely covered.

Airy Dream. 42". Ruffled orchid pink. 40c ea.

Aldura. 36". Best Plicata. Blue and white. Large, heavy substance. \$1.25.

Alta California. 48". S. deep yellow, perfect in form. 25c.

Arcadia Blue. Pale blue. Blooms profusely early and late spring and in fall. 25c.

Asia. 48". S. lavender; F. violet-purple blend. Late. 35c.

Attitash. Variegata. S. yellow, citrine and violet blend. F. violet blend. 20c.

Aztec Copper. 38". Rare blend of delicate copper and smoky violet. \$1.25.

Berkeley Gold. 45". Deep yellow. Vigorous, free bloomer. \$2.50 ea.

Blue Beard. Better, deeper blue than parent, Crimson King. Off season bloomer. 35c.

Blue and Gold. Deep gold beard. 20c.

Blue Velvet. 46". Intense, deep violet blue. 25c.

Boadicea. Yellow and pink blend, flushed sky blue in center of F. 25c.

Brown Thrasher. 34". Bright golden brown. Fine. \$5.00.

Buechley Giant. Perfectly formed, massive blue flowers; very tall. 25c.

California Blue. 60". Rich blue violet with glowing orange beard. 25c.
California Peach. 38". Intriguing pink and apricot blend. \$2.00.
Canyon Mists. 40". Pink mauve self colored. Beautiful. 20c.
Cecil Houdyshel. Tall Plicata. White, feathered lavender. 20c.
Cheerio. S. lustrous tan. F. brilliant velvety red. 40c.
China Lady. 38". Glistening ivory. Excellent substance. \$1.00.
China Maid. Blend of pink, gold bronze and rosy lilac. \$1.00.
Cinnabar. Rich velvety deep red violet. 20c.
Claridad. 30". Best, true-blue iris. 20c.
Coronation. 36". Fine, large, deep golden yellow. 20c.
Cucamonga. Tall velvety blue-violet. 25c.
Dauntless. Fine tall red self. 35c.
Deep Velvet. 36". Richest deep red violet. Beautiful flaring form. \$1.50.
Delight. Tall, pink and white plicata. 15c.
Depute Nomblot. The perfect iris. S. copper. Dykes medal. 25c.
Desirable. Very striking white and purple. 25c.
Dixie Sunshine. Yellow, shaded from medium to light. Very fragrant. \$2.00.
Dolly Madison. 35". Large flowers blended mauve and yellow. 15c.
Don Quixote. 42". Large, blended violet and brown. 15c.
Druid. 36". Red maroon and brown. 20c.
Duke of Bedford. Deep red violet. 15c.
El Capitan. 40". Manganese violet. Largest and finest. 20c.
Eleanor Roosevelt. Dark purple. Free fall bloomer. 15c.
Episode. 42". Blend of apricot, orange and yellow. Very vigorous. \$2.50.
Fair Elaine. 36". S. soft cream, F. deep rich yellow. 75c.
Flora Zenor. 36". One of the nearest pinks. Tangerine beard. \$1.50.
Florentine. 37". Plicata. White background. Lilac mauve lines and dots. \$1.50.
Fort Knox. 40". Smooth light yellow. Well branched and spaced. \$1.25.
Franceville. 54". S. fawn, tinted lilac; F. red purple edged heliotrope. 25c.
Gaviota. Fine cream white, edged yellow. 15c.
Golden Cataract. Deep golden yellow. Most profuse bloomer of all. 50c.
Golden Majesty. 42". Brilliant golden yellow. Slightly fragrant. 75c.
Golden Ruffles. 48". Fine, new, very large ruffled yellow. One of the best. \$10.00.
Great Lakes. 48". Clear blue. Highest ranking symposium Iris in years. \$1.25.
Happy Days. Our largest, tallest yellow. Most desirable. 40c.
Indian Chief. Huge, brilliant red tone, perfect form, free flowering. 25c.
King Juba. Tall. Golden standards and contrasting velvety red falls. 45c.
King Midas. Bicolor. Blended golden buff and garnet brown. 25c.
Lady Mohr. 36". S. oyster white; F. chartreuse yellow. A new introduction of entirely different color combination which has received unusual acclaim. \$10.00.
Lentz Schnee. White, tinted lavender. 15c.
Lord Dongan. 37". Silken Chinese violet and deep velvety pansy violet. \$3.50.
Los Angeles. Tall, large plicata. Snow white, edged blue. 25c.
Loudoun. 30". Yellow lined and dotted with chestnut. 20c.
Louis Bel. Pansy violet and violet purple. 25c.
Mabel Taft. Giant blue bicolor. 25c.
Mary Barnett. 42". One of the best light blues. 20c.
Mary Geddes. Blended soft pink and Pomeranian red. Dykes Medal. 35c.
Mary Gibson. 42". Early. Bronze, blended yellow. 25c.
Mary Senni. S. lilac, flushed red brown. F. violet and lilac margin. 20c.
Mauna Loa. Tall, conspicuous. Reddish flowers. 30c.
Melchoir. 36". S. bronze velvet. F. velvety crimson violet. 6" flowers. 20c.
Melitza. 40". Delicate pale ivory pink. Tangerine beard. \$1.00.
Messaline. 38". Very large. Red brown and red violet blend. 20c.
Mildred Presby. 20". S. creamy white; F. velvety, pansy violet. 20c.
Mirasol. Bright deep chrome yellow. Fine form. 20c.

Mme. Cheri. Large pink and violet blend. 20c.
Mme. Durand. Tan and mauve blend. 25c.
Moneta. Tall, red purple and violet bicolor. Off season bloomer. 30c.
Mount Washington. 48". One of the finest whites (for milder climates). 75c.
Ningal. Blend of pastel shades in rosy buff. Yellow in throat. 35c.
Numa Roumestan. 36". Intensely red. 20c.
Ola Kala. 36". Brightest of deep yellows. Very vigorous. \$4.00.
Pacific. 36". Gigantic deep blue. A magnificent early iris. 25c.
Painted Desert. 48". Brownish copper, tan and violet blend. Well branched. \$5.00.
Pale Moonlight. Very pale blue. 35c.
Persia. Bright blue, blended with smoky blue, like a persian rug. Fragrant. 35c.
Picador. Variegata. Gold and red brown. 25c.
Prairie Sunset. 36". Peach, pink, rose and gold blend. Very fine. \$2.00.
Pres. Pilkington. 40". S. buff over old gold. F. violet edged brown. 25c.
Purissima. 42". The most perfect white. Gigantic flowers. 25c.
Querida. 44". Blended pastel tints, mauve to white. Fragrant. 15c.
Red Dominion. Deep red. One of reddest. 45c.
Red Embers. Very striking bicolor. S. pink. F. velvety crimson. 25c.
Rialgar. 22". Deep buttercup yellow and bronze. Very showy. 20c.
Rosultra. 40". Early, bright rose. Fine garden effect. 20c.
Sacramento. A giant plicata like San Francisco but edged red purple. 25c.
Sandakan. Tan and purple bicolor. 20c.
San Francisco. 44". Finest, largest plicata. Lavender blue and white. Dykes Medal.
 25c.
San Gabriel. 60". Pink lavender. Extra fine. Too early for east. 20c.
San Luis Rey. 38". Large red purple. 15c.
Santa Barbara. 40". Finest lavender blue. Very large, perfect form. 20c.
Sequoiah. 36". Reddish color. F. margined lighter. 20c.
Shasta. 40". Gigantic snow white. Perfect form. Early. 25c.
Sierra Blue. 50". Clear soft blue. Enormous flowers on well branched stems. Perfection.
 Dykes Medal winner. 40c.
Snow Flurry. 48". Icy white. Very ruffled. \$1.50.
Souv. de Mme. Gaudichau. 36". Dark velvety blue purple. 20c.
Susan Bliss. 40". Magnificent pink toned iris. 25c.
Tenaya. Dark red-purple. Very outstanding. 20c.
Theme. New blend of unusual colors. S. bronze-gray flushed lavender. F. bronze-tan
 and petunia-violet. Fragrant. 50c.
The Red Douglas. 40". Rich deep purple red. 75c.
Thos. R. Bacon. Ivory yellow blended gray, violet in center of falls. 25c.
Ute Chief. S. blue violet; F. royal purple. Red toned. 20c.
Valencia. 24". Russet color of a valencia orange. Ruffled. 30c.
Valor. Blackish blue-violet bicolor. Large, rich, fine. 20c.
Wabash. 38". Outstanding amoena, S. white. F. deep purple, white edge. \$1.00.
Wonder Child. Very large, deep pansy purple. Magnificent, profuse bloomer. 35c.
Yves Lassilly. Very large white, suffused sky blue. 20c.
Yvonne Pellitier. Pallid blue-violet blending to light violet. 20c.

Collections are usually expected. Our prices are already so much lower than most prices that we cannot make the large discounts that are sometimes made. Since it is likely that a few surpluses may be apparent at digging time we will offer:

Collection No. 1. Ten varieties, our selection, each rhizome labelled and they will not all be 15c sorts. Price \$1.25.

Collection No. 2. All the varieties here listed, 111 varieties, all labelled. Total list value \$87.65, for \$75.00.

Supplementary List. If you are a real Iris Fan, and are interested in the very latest, regardless of price, please ask for our Supplementary List. This will not be ready,

probably, before May. Your request will be filed and list sent when ready. In this we expect to list about 300 varieties, ranging in price from 35c to about \$15.00 each.

Gladiolus

Culture: Glads planted Nov. 15 to Mar. 1 in Southern California and thruout the south (a little later in Northern California and early as possible in spring in the east) are reasonably sure to escape the attack of thrips. Our Glad bulbs are especially grown for this purpose, matured early and dug in August. But if you plant recently dug bulbs you will gain nothing; they will continue their rest of three months before starting.

Thrips are very small insects that suck the juices from the plant. They cause the flowers to wither or appear burned, and appear only after weather becomes warm.

To avoid the damage they do, three measures are effective: Plant early; plant clean, treated bulbs; keep them reasonably moist, never allowed to dry out.

Altho no thrips have been planted with the bulbs a few thrips may have wintered in protected places near the field or garden. They may come in from nearby plantings. We therefore begin to dust with D.D.T. when plants are about 8" tall. Any hand duster will do. We use a powder containing 5% D.D.T., 45% Sulphur and 50% inert ingredients. Dust in early morning when the plants are moist with dew. That will cause the powder to stick and remain effective for a week or two. Four to six dustings before flowering will control thrips tho in a field where various sizes have been planted and where flowering lasts for several weeks we consider it advisable to dust again once or more, the next morning after flowers are cut. We have not seen flowers or buds damaged by D.D.T. This powder can be had most anywhere under any one of several trade names.

Treating Bulbs. We have recommended various dips and treatments for bulbs but have rejected all when we later found that some injuries resulted to the bulbs. Now we dust our bulbs with the same D.D.T. powder. It keeps aphids and mealy bugs away and kills the thrips.

Naphthalein flakes sprinkled in the bulb containers which are then covered and allowed to remain about three weeks, will usually kill all thrips. But too long an exposure results in a little damage to the bulbs.

The bulbs we sell you have been treated with D.D.T. Plant large bulbs 4" or 5" deep; small 3"; bulblets 2". Twice their diameter apart. One can plant two rows, staggered in a 4" wide furrow or closer in a single row. Rows about 20" apart. Alkaline soils produce poor Glads. Soil should be neutral to mildly acid. Leaf mould or peat added is useful. Domestic peat is often harmful because alkaline. Use no fresh manure, but well rotted manure is good. Top mulch of leaf mould or imported peat is good.

Keep Glads growing with plenty of water and best culture for about two months after flowering. It is best to dig bulbs in the south, and necessary in the north.

Sizes and Prices. L. means "large," size 1 and 2, 1¼" - 1½" (or more) in diameter. M. is "medium" and includes No. 3 and 4 sizes, ¾" to 1¼" diam. S. means "small," under ¾" diam. Large and medium bulbs give good long spikes. Small bulbs usually bloom in most varieties and when planted early, given good culture and plenty of water they usually make fairly long spikes. Early planted bulblets often flower. Large bulbs bloom earlier and throw more and longer spikes. **Prices** are for one bulb as elsewhere in this catalog. A dozen, all of one sort, costs ten times the price of one unless otherwise stated. Six are sold at dozen rate. Don't forget **Sales Tax** in California.

Substitution. If you order early there is likely to be no substitution, but when out of a variety we send another as nearly like it as possible and of equal or greater value. If you do not approve this, request no substitution.

We are offering many of the newer and better varieties that have been increased to a quantity where they can be sold at medium prices. A few of the older ones, still desirable, are retained.

The varieties April and Butterscotch are new southern California originations and are very outstanding. They are offered at a very low price in view of the fact that this is their first season before the public and of their high merit and desirability.

Amber Glow. Tall amber yellow. L. 10c ea. \$1.00 doz.

April. Beautiful pastel tone of Apricot. Tall, vigorous, early. L. \$1.50 ea.

Big Top. Light pink with carmine feather. 6 ft. tall. The gorgeous, immense flowers and height give great distinction. L. 20c ea.

Black Opal. Deep maroon red, almost black. The best dark red. Many flowers are open on a tall exhibition spike. L. 10c.

Blue Beauty. The best of all blue glads, we think. Large and tall. L. 8c ea. M. 5c.

Burma. New ruffled, deep rose red. Sensational new glad. L. 30c ea.

Butterscotch. Tall orange yellow. This is a new color break and a delightful one. In the last So. Calif. Gladiolus show this new origination won Best Seedling, Best Spike, Sweepstakes. So impressed was I, as one of the Judges, that I asked if there was some other award we could give. So we put on a Special Award of Merit. Price, M. \$1.00 ea.

Capeheart. Light salmon rose. Large fls., 8 open. Early commercial cut flower and exhibition. 12c ea.

Chamouny. Tall, deep cerise rose. Unusual and very beautiful. L. 15c ea.

Charles Dickens. Tall, large flowered, radiant purple. Our stock contains a few rogues but all good ones. As is. L. 6c ea.

Debonaire. La France pink. Fine. Jumbo bulbs 2" or over 15c ea.

Elizabeth The Queen. Gorgeous, immense, ruffled lavender flowers. Best. 20c. \$1.75 doz.

Ethel Cave Cole. Tall, early, large flowers, many open. This exquisite pink is probably the world's best and in greatest demand by florists. L. 8c. 75c doz. \$5.00 100. M. 6c. S. 4c. The smallest bulbs will flower well if planted early.

Jeanie. Fine, tall pink with cream throat. 10c.

Margaret Beaton. Large white, with scarlet throat blotch. Popular as a florist's flower. L. 6c. M. 5c. 45c doz. S. 30c doz.

Oregon Gold. Exquisite, tall ruffled light yellow. L. 12c.

Pacifica. Tall, early white, popular for cutting. L. 12c.

Purple Supreme. Claimed to be the best purple. Beautifully edged silver. Tall. 15c.

Red Charm. Finest new red. Tall. Many flowers open. L. 25c.

Rosa Van Lima. Tall rose pink. Very beautiful. L. 10c.

Shirley Temple. Immense ruffled cream. Lovely. 10c.

Snow Princess. New popular pure white. Large and early. L. 10c.

The Orchid. The small lacinated flowers resemble orchids in color and form and florets make a nice corsage. 1" bulbs 6c. Small but blooming size 35c doz.

Wanda. Fine cream sport of Picardy. L. 10c. M. 8c. S. 5c.

Mixed Varieties. Not a balanced mixture but a mixture of excellent varieties. 5c ea. 50c doz. \$3.00 per 100.

Please remember that the rate per dozen is ten times the price of one bulb.

Bulblets. If bulblets are peeled carefully without bruising, planted early, kept moist until they come up and given good culture thereafter which includes plenty of irrigation, many will flower the first year. A large proportion will make large or medium sized high crowned bulbs. They do quite well without peeling. The following list are not common, ordinary varieties that can be sold for little-or-nothing per pint. We would not sell them if we had land enough to plant all as these are top-notch varieties.

The varieties offered are Ethel Cave Cole, Capeheart, Corona, Wanda, Charles Dickens (mixed with Capeheart, etc.), Margaret Beaton and Assorted. Price per ½ pint, \$1.00. The number of bulblets will vary. Some of the bulblets contain from few to many small bulbs. We counted ½ pint small bulblets and found 1000 to half pint. On very large bulblets there may be less than one-fourth as many but they would be equally valuable.

Other Bulbs of Iris Family

Marico gracillis. Walking Iris or Apostle Plant. The fugitive 2" flowers, white and blue with yellow and brown markings in center, are lovely. The flowers are followed by a small plant at end of scape. These become heavy and bend over to ground and take root, thus walking away from mother plant. **Culture.** Give nearly full shade, plenty of water, never drying out. Tender tropical but grown in pots in north. 50c ea.

Tigridia pavonia hybrids. Tiger Flower or Shell Flower. Large, very showy flowers of yellow, orange to rose and red. Plant as soon as weather is settled and frost danger is past, in good soil, 3" deep, 5" apart. We give a little shade as our sun is very hot. Along coast or in the north it may not be necessary. Water well when rains fail. They can be grown in a greenhouse. In the north, dig like Glads and store dry. We offer a special low price. Assorted colors, 4 bulbs for 35c. Per doz., \$1.00.

LILY FAMILY—Liliaceae

The type species is *Lilium*, or true Lily. Many call *Crinum*s, *Callas*, *Cannas*, or any bulbs "Lilies," but this is an error.

Lilium regale. Large fragrant, white flowers, tinted pink with cream throat. This is one of the hardiest and is easy to grow. It increases in size and number every year and becomes permanently established in the garden. It belongs in the perennial border along with Daylilies, *Crinum*s, Shrubs, etc. They prefer mildly acid soil and the addition of leaf mould and sand to your soil will give improved results. Mulch the ground or plant among shrubs or other plants that shade the soil surface but allow the plant to rise into the sunlight. Keep their feet cool and their heads warm. Large bulbs, 35c ea.

Other Lilies. Order the following during Jan. or Feb. By Mar. 1, they are likely to start growing and not be in condition to move. ***L. pardalinum*,** orange and red fls., Calif. native and easy in partial shade, 25c. **Croft Easter Lilies.** It is not too late to pot these or plant in garden. 35c ea. You should have and save our Fall 1947 Catalog which contains over one page about these lilies and how to force them. We may never publish it again. Send 6c for first class postage or 10c for air mail for this catalog.

Gloriosa Climbing Lily. The flowers resemble true lilies but surpass most of them in their gorgeous beauty and high coloring. They propagate by tubers instead of bulbs. The stem is branching and heavy and must be supported.

Culture. They must have sandy soil with leaf mould and peat added, acid (about pH 6.5), full sun or slight shade, plenty of water, perfect drainage. We usually plant before March 1, but sometimes as late as May. They need a long season. Plant 4" deep. Horizontal position. In the north they may be started early in pots and shifted. Do not break earth ball when shifting.

Gloriosa rothschildiana. It deserves the name **Glory Lily.** Very vivid colors, red with yellow markings, turning later to deep red and then deep rose. 4 to 6 ft. tall. Large tubers at \$1.00, \$1.50 and \$2.00.

Urginea maritima. This curious bulb comes from N. Africa. It is hardy only in mild climates but can be grown as far north as N. Carolina or state of Washington along the coasts. Probably hardy to 10° F. A 3 to 5 ft. spike of densely placed white flowers appears about Aug. The foliage starts later and grows until spring. In Italy, small shop keepers place a dry bulb in the window where it will bloom without soil or water. It will do the same for you or will attract attention as an ornamental curiosity in the southern garden. The bulbs grow up to 18" circum. or more. \$2.00 ea.

Tulips. Another left over from fall. We have perhaps 3 or 4 bushels of small bulbs. We have planted Tulips as late as Mar. 1 and saved them. It's a shame to throw these away and as we lost the lease of a few adjacent acres we have no place to plant them. Price, \$1.00 per qt., postpaid. One peck (8 quarts) for \$5.00. 1 bushel, \$17.50 f.o.b.

OXALIS FAMILY—Oxalidaceae

No bulbs have increased more rapidly in public favor in recent years. Plants and flowers are variable in form and color and are most attractive and dainty. **Culture.** Plant in full sun exposure in any good soil. All make lovely pot plants and should be grown freely in the garden. The flowers open only in the sunlight.

See the Fall Catalog for the winter growing types.

Oxalis crassipes. Flowers bright rose. Evergreen and everblooming. Increases by tubers and can be moved at any time. Plant at once. Large tubers, 25c ea. 6 for \$1.00.

O. lasiandra. Prettiest summer Oxalis. Tall leaf petiole has 7 to 10 bronze-green leaflets. Lovely rose carmine flowers. 3 for 15c. 6 for 25c.

THE CALLA LILY FAMILY—Araceae

This family contains the so-called Calla Lilies or Zantedeschias, the true Calla palustris, Caladiums, Sauramatum, Amorphophallis and many others.

Culture. Zantedeschias, Pink, Yellow and Spotted Leaf Callas become dormant in late fall and should not be potted before Dec. 15. If potted on that date very little water must be given or they may rot. If not potted until Feb. 15 they have had a longer rest and start more easily. For potting read our "Potting Directions" in front pages of Catalog. Use rich sandy loam soil with an equal quantity of sifted leaf mould or half as much peat. Set bulbs 2" deep.

They may be planted in the garden any time in the deep south and in the north as soon as danger of heavy freezing is past. Plant 3" deep in the garden in half shade.

Baby Callas can be moved any time of year and should be kept growing the year around. They may become semi-dormant in mid-summer.

Large White Callas are usually moved in the fall, but we have some fine, large bulbs that will apparently do to pot up to Feb. 15 or a little later. All Callas require similar soil and conditions of growth except White Callas require cooler conditions and are winter growers.

Zantedeschia aethiopica, var. **Baby Calla.** Smallest and whitest. Small bulbs produce flowers 1" wide, useful for corsages. The large bulbs make larger flowers. 25c ea. 6 for \$1.25.

Z. aethiopica, **Large White Calla.** Jumbo bulbs 50c. S. 20c.

Z. elliotiana. Pure golden yellow flowers. Requires more shade than others, but give potted bulbs part sun. 20c ea. 6 for \$1.00. Larger bulbs 25c and 35c ea.

Z. rehmanni. Dark rose pink variety. 50c.

Z. rehmanni var. **elegans.** This variety has light pink flowers of a lovely shade. It is taller, larger and a better grower than the dark pink. More easy also to force in pots, but when forced many report they produce white flowers. Even in the garden some flowers are white with shell pink tintings. But the white ones are still lovely, more so than the white Aethiopica. 50c ea.

Amorphophallus revieri. **Sacred Lily of India.** This giant aroid is both beautiful and curious. The flower precedes the foliage and resembles a huge Calla in form. It may be 2 ft. or more long. The spathe and spadix are dark chocolate brown. The "perfume" attracts carrion insects but it soon disappears. Use same soil as for Callas and start the bulbs in pots in Mar. After flowering and when warm they should be shifted to a shaded place in garden. Blooming size, \$2.50. Small bulbs for 50c, \$1.00 and \$1.50. Stock limited, order early.

Sauromatum venosum. **Lizard Lily.** Like the above this species has rich tropical foliage with spotted leaf petioles. The blade of the flower spathe is about 16" long, 1" wide, yellow with black spots. It lies on the ground and timid persons should be warned. **Culture** like Amorphophallus. Blooming sizes, \$1.50. Small for 50c and \$1.00. The latter size may flower. As these flower usually in Mar., order early.

Fancy Leaf Caladiums

Fancy Leaf Caladiums are the most gorgeous of all foliage plants. The leaves are as colorful as any flowers. They are perfect pot plants. **Culture.** When bulbs are received before you wish to plant or pot, store them in a warm room. The minimum temperature in storage must be 60°. A little warmer is even better. Below that temperature, the bulbs may be injured. It is better to start the tubers before planting. They usually will start in Feb., but Mar. is still a better time. We hold them, packed in peat, in a warm room until May, uninjured, and they then start more quickly than if planted earlier.

To start, we recommend that small pots be filled with peat and sphagnum, equal parts. Cover bulbs about 1". When well rooted and tops are started they can then be shifted with the compost to their permanent pots. In these the soil should be pure compost—well rotted leaf mould, sifted, and a little sand. Adding a portion of sifted peat to the leaf mould is very good and one can use peat and sphagnum, the latter rubbed into small pieces, for the compost. Add a rounded tablespoonful of bone meal if available. Strong plants can be fed with weak liquid manure. The best growing temperature is about 85° with a minimum of 60° or 70° at night. The plants must be protected from strong sunlight. Half shade is usually about right.

We are able to give you a very good deal on some of the newer and better sorts. Last year we listed bulbs, 1½"-2" diam. at 45c ea. This year we are able to offer bulbs 2"-2½" at the same price and even slightly lower by the dozen.

Candidum. Pure snow white leaf, dark green ribs and veins.

Lord Derby. Beautiful rose leaf, dark green ribs and veins.

Mrs. W. B. Haldeman. Transparent rose leaf, with pea green veins and narrow dark green border.

John Peed. Brilliant red leaf with dark green border.

Reconcavo. Deep rose center and carmine ribs on a dark green leaf.

Bulbs, 2"-2½" diam. 45c ea. \$4.50 doz. One each of the 5 varieties for \$2.10.

Assorted varieties. These include excellent varieties, many that are different from the above. The sizes also are assorted, from 1" to 3" diam. Price 30c ea. \$3.00 doz. **Special,** 1 doz. assorted and the 5 named for \$4.85 or the 5 named and 1 assorted for \$2.35.

GLOXINIAS—Gesneriaceae

Garden Gloxinias really belong to the genus *Sinningia* and are hybrids developed from *S. speciosa*. This species was introduced before 1817 and named *Gloxinia speciosa*. A few years later botanists discovered the error but the name *Gloxinia* will always be applied by gardeners to these popular tuberous plants. The true botanical Gloxinias make no tubers. They are not florist's flowers and are not offered in catalogues but *Sinningias* will always be called Gloxinias and we use the name here.

Gloxinias are natives of Brazil, a warm, tropical climate, which gives a key to their culture. Probably most failures result from trying to start them or grow them in cold rooms.

The bell shaped flowers, originally purple, have been developed into shades of red, pink, purple and white in many variations. Some are blotched, spotted or sprinkled with darker colors. All are very rich and beautiful. The foliage too is rich and exotic in appearance and the plants would be worth cultivating for the foliage alone. It is of soft velvety texture, glowing with almost metallic tints, a rich green marked by gray and white.

Every month of the year we receive requests for *Gloxinia* tubers. They can only be had from Jan. to about April. We usually sell out by March. Later one must pay more and buy plants. We do not list plants because they cannot be sent long distances. Plants thus received are not very satisfactory. I advise you to buy tubers, early.

How to Grow Gloxinias. Pot the tubers, preferably in Feb. or Mar. April plantings will do well, if you can get the tubers. We expect to have them as late as April but a few sorts may be sold out. Cover the tubers lightly. Gloxinias like Caladiums are tropical. The tubers must be stored in a warm room, packed in dry sand or peat, not exposed to the air or to moisture.

Our tubers may be set in 5" pots. Read our Potting Directions on a previous page. A good soil is one-third each of peat, rich fibrous loam and sand. If the loam is low in humus, combine it with well rotted leaf mould that has been rubbed thru a $\frac{1}{8}$ " mesh screen.

A good starting and growing temperature is 60° at night and about 70° day time. A little higher during the day will not hurt them and in the summer when in full growth the temperatures nature provides will be higher. At all times they must be shaded. Keep them slightly on the dry side when starting, but still moist enough to start growth. When in good growth they require abundant moisture and high humidity of the air. Cold air currents must not strike the plants. Protect always from wind and drafts. Water from a can, using tepid water in cold months. Allow no moisture to touch foliage.

Altho very few of our customers blame their bulbs when an occasional failure results, they do sometimes ask me why nine bulbs grew and one did not. Since long-distance diagnosis is impossible, I tell you here more definitely than most books on bulb culture, the conditions necessary for success. The average amateur will be able to succeed. But if you overwater when starting the tubers, allow the temperature to go down to 34° a few nights, a few tubers may fail. There is a certain amount of tolerance, but not the same degree, in Gloxinias and in all plants. Thus one dies but a dozen may survive if your culture is only 75% correct.

After flowering lessen the water given, gradually. When the tops are dead give only enough water to prevent shriveling. By Feb. some of the tubers will show growth. Repot the tubers as soon as they start to grow.

We offer only Calif. grown Gloxinias, and Tub. Begonias and Florida grown Caladiums because they are the best in the world. I could buy Belgian grown Gloxinias for less and sell them at a lower price, but it has been reported to us that at least some of the European Nurseries are growing strains that have inferior flowers.

We offer 1 $\frac{1}{4}$ "-1 $\frac{1}{2}$ " tubers in the following varieties: **Blanche de Meru**, rose, white throat; **Emperor Frederick**, scarlet, white border; **Emperor William**, violet, white border; **Etoile de Feu**, scarlet; **Mont Blanc**, pure white; **Prince Albert**, frilled, dark violet; **Princess Elizabeth**, blue, white throat; **Roi des Rouges**, frilled, dark crimson; **Tigrinia**, from light rose to dark lavender; **Violacea**, soft violet; **Brown's Red**; **Othello**, deep purple. Price 50c ea. The complete collection, 12 var., all labelled, for \$5.50.

Achimines are close relatives of Gloxinias and belong also to the Gesneriaceae. Altho distinctly different, the genera Achimines and Sinningia are closely parallel in the color and form of their flowers, foliage characteristics, ecology in nature and culture. The tubular flowers are mostly in purple tones altho white, pink and red are seen.

Culture. Achimines tubers are very small and in our arid climate they dry out easily if improperly stored. They should be covered by dry sand and stored at a minimum temp. of 45°. It is best to start at once when received if this is Mar. 1, or later. They may be grown in pots or wire baskets. As Achimines are shallow rooting, and the roots need air, fill the pot $\frac{1}{3}$ full of drainage material. 8" wire baskets are ideal containers and will hold several plants. If too full, they transplant easily. Line the basket well with sphagnum moss and place the compost in the center. Baskets are listed with Orchid supplies on a later page.

The best compost for Achimines is one part sand or very sandy loam and two parts well rotted leaf mould or leaf mould and peat. Some commercial growers use a little well rotted manure in the starting compost but this adds a little hazard, as it can start

a rot in the tubers before they sprout. A top dressing of screened, well rotted manure may be given the plants after they are well started. When starting they must be watered very sparingly but not allowed to become dry. When growth has started gradually increase the water supply as these plants must never become dry after starting. Use very weak liquid manure occasionally after plants are well advanced.

Achimenes are tropicals and need high humidity and warm conditions. Start them at a temperature of about 60°. When flowering a temperature of 50° is better and by that time you can remove them to the shade of trees, preferably with limbs trimmed high. They must have about 75% shade. Probably basket culture is the ideal method as it affords perfect drainage. Baskets can be suspended under trees or on a north porch or a shaded patio.

Varieties. *Longiflora major*. 3" flowers of reddish blue. Dark green leaves. **Mexicana**. Sky blue fls., with yellow center, 2½" wide. Leaves are dark green, almost black, on top, and the under side bright red. A desirable plant for foliage alone. **Pulcherrima**. Means "beautiful one." Rich purple 2" flower with scalloped and ruffled edges. Large bronze-green leaves. **Adele de la Haute**. 2½" fls., shell pink shading to carmine. **Maxima**. Means "the largest." 3" fls., white with purple eye, lightly veined red at center. **Margaret**. Pure white 2½" fls. The most velvety foliage.

Prices, All varieties, 30c ea. 6 for \$1.50. \$2.50 doz. To get the rate per 6 or per doz., you may select any combination of varieties. Thus you may have one of each for \$1.50 or 2 of each for \$2.50.

BEGONIA FAMILY—Begoniaceae

Tuberous Begonias and How to Grow Them. Tuberous Begonias are wonderfully attractive plants for pots and baskets or in the garden. Their popularity is modern and results from recent improvements of their flowers in color, size and form and the great increase in the number of the types offered. Begonias respond generously to the skill of the hybridizer and take on the forms and closely imitate the flowers of Camellia, Carnations or rosebuds and show many forms the like of which have been seen nowhere else in nature.

The flowers of Begonias are monoecious. This means that the individual flowers are not perfect—containing both male and female parts but that there are male and female flowers, separately produced but on the same plant. The large terminal flower on a stem is a male flower with a stamen. On each side is a smaller female flower with its pistil and ovary. If one wishes to produce seed, the pollen from the stamen is placed on the terminal stigma above the ovary. Even an amateur can produce interesting forms by crossing the types. Seedlings may be grown on a thin layer of sifted compost on top of a porous brick and the brick set into a shallow pan of water.

If Tub. Begonias are potted at once when received they must be watered very little until they start to grow. The better practice is to start them by laying the tubers on top of slightly moist sphagnum or sphagnum and peat mixed. They may be covered just slightly but with the concave side containing the "eyes" only partly hidden. Keep them only slightly moist at a temperature of 60° to 65°, shaded.

When the tops are an inch or more in height and the tuber has made roots, it may be removed with a bit of the compost into its pot or basket. Probably the common practice of merely storing the tubers and potting them when they start to grow is equally good, tho a little time may be lost. The heated, dry air of a living room is a poor place to store the tubers, to start them or to grow the plants.

The soil for Tub. Begonias may be half humus. Use ⅔ peat or lacking peat, use leaf mould, and one third well rotted old dairy manure. All should be run through a ⅛" mesh screen. The soil must be acid. If not pH 6.5 or lower, add more peat. This soil may be improved by adding charcoal in small pieces or a small tablespoon of soot.

Give liquid manure or soot water, (handful to 2½ gal.) during growth as Begonias of all types are good feeders. They should be fed little and often. When growing well the plants and foliage should be sprinkled well, daily. This will not harm the flowers. Tuberous Begonias need half shade and a cool moist situation. It is better to shift them to outdoors when warm enough as the house air is usually too dry. A lath house is the ideal place in warm weather. Avoid full sun and full shade. When they cease blooming (usually about Dec.), gradually dry them off. The tubers often live over winter in California if not dug but it is better to dig, dry and store here and necessary in cold climates.

Baskets are perhaps more perfect containers for Tub. Begonias than pots. Line the basket with Sphagnum and then fill with the soil as advised. Baskets are listed under Orchid Supplies.

Begonia Quality. Tub. Begonias are produced wherever bulbs are grown commercially, but the very best types are the product of certain California hybridizers and growers. Among the great names are the Brown Bulb Co., Vetterlee and Reinelt. We handle only Begonias and Gloxinias grown by these firms.

All bulbs listed below are 1¼"—1½" bulbs.

Giant Double Camellia Flowered. The most popular type. The flowers are like large, perfect Camellia blossoms. We offer 17 colors: White, Blush, Pink, Rose, Crimson Rose, American Beauty, Yellow, Apricot, Salmon, Light Salmon, Dark Salmon, Orange, Flame, Scarlet, Red, Cardinal Red, Dark Red. Price 30c ea. \$3.00 doz. All 17 colors for \$4.25.

Giant Double Carnation Flowered. They resemble huge carnation flowers, but are even more perfect. 14 Colors: White, Blush, Pink, Rose, Crimson Rose, Yellow, Apricot, Salmon, Dark Salmon, Red Salmon, Orange, Scarlet, Red, Dark Red. 30c ea., \$3.00 doz. All 14 colors for \$3.50.

Giant Double Picotee. The exquisite double flowers are edged white like a Picotee Tulip. 5 colors: Pink, Rose, Salmon, Apricot, Red. 35c ea. \$3.50 doz. One of each color, 5 bulbs, \$1.50.

Double Hanging Basket or Lloydii. The stems are pendulant. Very attractive in pots, hanging baskets or shaded rock garden. 9 colors: Red, Scarlet, Rose, Pink, Salmon, Apricot, Yellow, Orange, White. 35c ea. \$3.50 doz. All 9 colors for \$2.70.

Giant Single Frilled or Crispa. Large, profusely frilled and ruffled single flowers. 9 colors: White, Yellow, Pink, Scarlet, Rose, Apricot, Red, Salmon, Orange. 35c ea. \$3.50 doz. The 9 colors for \$2.70.

Rosebud Type. The double flowers resemble perfect rose buds that later open into double flowers. Assorted colors only but no two are exactly alike and are in many pastel shades. 35c ea. 3 for \$1.00. \$3.50 doz.

Named Varieties. I have selected the two following varieties as probably the finest Tuberous Begonias yet produced. **Red Triumph.** A Giant Double Camellia type with an exceptionally large, ruffled flower of ruby red and a velvety texture. **Sunset.** A profusely frilled Crispa type, copper with a red edge. Since named sorts cannot be reproduced through seeds, they must be propagated by the slower vegetative method of division. That makes them more expensive. Price, large tubers, \$1.00 ea. No quantity discounts.

Collection of all Tuberous Begonias listed, 57 all different sorts including both Red Triumph and Sunset, \$15.00.

Substitution. We are very unlikely to run out of any type or color required by early orders, but we sometimes do, late in the season. In case we do, we substitute colors or types that are as closely similar as possible. Please do not forbid us to substitute and we feel sure you will be pleased with what we send, and you will get the collection rate even though a higher priced sort is sent. But it is your privilege to veto any substitution if you so desire.

THE ORCHID FAMILY—Orchidaceae

We receive many letters stating that the writer's fondest desire is to possess an orchid. They want one that will at least sometime flower, of course. For a good many years we have been planning and working to make this possible. Not myself alone but many others.

Many have purchased unestablished orchids. Some have been able to make them live but rather few have been able to maintain them in good health or to make them flower. This is the hard way to start growing orchids. Therefore we sell only established growing plants that with proper culture can be expected to flower in their next season, unless our description definitely specifies otherwise.

Orchids are as easy to grow as Tuberous Begonias, Gloxinias or Amaryllis. What the amateur grower lacks if he fails is reliable and understandable information. For that reason we wrote a small booklet, 12 pages with covers, on "How To Grow Orchids." This booklet is not a complete guide to culture of all orchids but it will start you and help you to succeed with the more common and easier grown ones. Price 25c. We offer them to clubs or to those who wish to give a few to friends and to orchid dealers for \$1.80 per doz. postpaid. The culture information in this catalog is necessarily brief. We try to make it sufficient but we advise all customers to purchase the booklet also as we do not include them gratis with orders.

Bletilla hyacintha. Hardy terrestrial orchid. It has pleated leaves, and 8 or more dainty rose purple orchids on a 12" stem. Blooms in early spring. Plant the bulbs 4" deep in a sandy loam soil, to which an abundant quantity of leaf mould or peat has been added. They need considerable sun but in our hot summers 25% shade is about right. Here they need frequent irrigation. We can deliver these only until about Feb. 15. Plant at once in the south and in the north if ground is frozen, pot them in soil described and shift to garden as early as possible. Price 75c ea.

Cymbidiums are the most desirable of easily grown orchids. One plant of 3 or 4 pseudo bulbs may give 2 or 3 blooming scapes with from 15 to 25 or more flowers on each scape. The flowers have a modest but intriguing beauty that renders them most desirable for corsages. They last several weeks on the plant and when cut the flowers may usually be worn a number of times if placed in a refrigerator between occasions. The flowers are 3" to 5" wide.

Culture of Cymbidiums. They are hardy in a lath house in So. California and elsewhere if temperatures go no lower than about 26°. Lower than that temperature flower spikes are likely to be frozen. Plants will survive even slightly lower. They must be grown in half shade of a lath house or trees. The soil should be sandy loam with equal portion of peat or well rotted leaf mould thoroughly mixed in. Set the pseudo bulbs with base only slightly under soil surface. If there are no living roots, place pure peat in contact with base of bulb. After planting, sprinkle the foliage once or twice daily with only enough on the soil surface to preserve moisture without soginess. When well rooted, the water may be increased. The plants should never become dry and must never be soggy.

Cymbidiums do not flower for about two years after moving. Only in rare cases do they flower in a few months. We ship Cymbidiums loose roots. It is easy and safe. Many, and sometimes all roots die when disturbed. But the roots are readily replaced, usually within six weeks.

Cymbidiums are easily grown in pots in the medium as described for tropical American orchids or in the soil recommended for outdoor culture. Use a pot in proportion to size of plant, from 6" to 8" size, usually. Read potting directions on a preceding page and fill pot $\frac{1}{3}$ full of drainage material. Many commercial growers in the north grow Cymbidiums in pots, in a greenhouse or in a window garden.

Special Sale of Cymbidiums. We are not going to quit growing Cymbidiums. We sell practically all our flowers. Because large growers charged us so much for plants when we had to buy them we were forced to retail plants at \$15.00 each or more. But

they grow and increase rather well and we now have a stock of sufficient size that we can afford to divide with you at a price that you can afford to pay.

As we list them, a plant of a *Cymbidium* consists of one single pseudo bulb with its foliage. Where one desires flowers in less than two years time, it is advisable to order a clump of 2, 3, 4 or more pseudo bulbs. These will be shipped in one undivided clump for 2, 3 or 4 times the cost of one plant. We do not guarantee flowers within a definite period but a clump of 3 or 4, maintained in good health, has a very good chance to flower in one year after being established.

Cymbidiums, Assorted Varieties. The labels of these were accidentally lost but they are just as good as any of our named sorts. Small plants \$3.00 and \$4.00 ea. Large, \$5.00. Clump of 3 for \$14.50. Clumps of 4 for \$19.00.

Butterfly. Yellow to buff with red lip. \$6.00.

Doreen. Bronze green. Purple spotted, yellow lip. \$7.00.

Giganteum. Large vigorous plant. Vivid red-brown flowers. Early. \$6.00.

Insigne. Small plants, nice size for pots. White, flushed pink to deep rose. \$8.50.

Jessica. From light to deep pink and up to 45 flowers on one scape. \$8.50.

Moir. Shades of cream to yellow. Crimson markings on lip. \$6.00.

Veichi. Good grower and multiplier. Flowers large and pretty but only 8 or 9 on a stem. The stems are so freely produced that plants yield a good average number of flowers. \$6.00

Winter Cheer. Cream with pink dots. Red dot on lip. \$6.00.

Zebra. Pink in various shades. \$8.00.

The prices of these named varieties are not proportioned to their relative value, since all are underpriced but are governed by the number we can afford to sell.

Cypripediums or Lady Slippers. These are not the hardy Lady Slippers of the temperate zone but their tropical representatives of India. More properly they are *Paphiopedilums*. In horticulture they are known as *Cypripediums*. They have the typical slipper shape, one flower on a stem but a large plant may produce several stems. The flowers are 4" to 5" wide or more. They are very long lasting, like *Cymbidiums* and are much used for corsages by florists. **Culture.** They may be grown in the ground in So. California in the same lath house and soil as for *Cymbidiums*. They will not survive quite as much cold but are safe at 30° and possibly lower. Ours are now growing in a lath house but as we have had temperatures down to about 28° and we do not want to take a chance, we have covered them by heavy white cloth mounted on a frame 3 ft. tall. A few are now in bloom. They will bloom more freely in a greenhouse or house with a temperature of 50° to 70°.

They may be grown in pots and in a soil medium of peat and chopped sphagnum, equal portions, but are usually grown by commercial growers in osmundine. *Cypripediums* should not be over watered and should never become completely dry as they are in some stage of growth the entire year. The plants we sell are established in one of these mediums and are shipped in paper pots. Shift into a 5" or 6" clay pot.

Cypripedium insigne. 4" to 5" flowers in winter. The dorsal sepal is glossy greenish yellow, spotted purple and orange and tipped white. Petals, pale yellow green, veined brown-purple. Lip, yellow green, shaded brown. Very variable, with many named varieties. Price, \$7.50 each.

Tropical American Orchids

The following are imported plants established in pots. They include only those that are easy to grow in the hands of amateurs, and many of them are useful corsage varieties. These are shipped established in the proper potting medium in paper pots, except *Epidendrum o'brienianum* which are shipped loose roots like *Cymbidiums*. Be prepared with 5" or 6" pots and drainage material with which to pot them.

Most people are now comparing prices. Many orchids now advertised are unestablished, dry plants. It takes material, labor and usually several months time to establish these and get them growing. Naturally, the established plants cost more and

give better and quicker results. Usually—one gets flowers an entire season earlier from established, growing plants. The inexperienced amateur should buy established plants.

Culture, when received, the plant with adhering compost will be placed in the bottom of a paper pot, with dry compost (usually peat and Sphagnum mixed) around them. This holds and protects the plants in transit, from damage by freezing or in possible rough handling. Unpack carefully and use all the material as your potting soil. If the material is entirely broken away from the plant, little harm will result but be careful not to break or bruise the living roots. Use 5" or 6" pots which are $\frac{1}{3}$ full of good drainage material.

Laelias, Epidendrums, most Odontoglossums or other smaller orchids do exceptionally well in wire baskets. Grown that way, the air can reach the roots more freely and there is less danger of overwatering since the drainage is perfect. We will ship any of the American epiphytic orchids, established in a wire basket for \$1.00 extra. But we except Cattleyas. They and most orchids with long pseudo bulbs should be in pots.

When basketing orchids or any plants, line the basket first with sphagnum and place the plant with compost in center. Then pack more compost or sphagnum around the plant and pack it firmly in position. We list baskets under Orchid Supplies.

Winter Treatment. Even in So. California most of the following orchids need a little more heat at night than they will receive outside or in a lath house. They need here, and of course in the north, a heated room in a window garden or a green house. A small lath house can be lined with wire screen that has been coated with flexible glass. This is sold under several trade names. Such a house need not cost over \$75.00 for a small size and will do for a green house but only in very mild climates. This house or a greenhouse can be heated with a kerosene stove.

Any where, even a kitchen or living room window, properly shaded, as all orchids require some shade, where proper temperatures and humidity can be maintained will be proper for the cultivation of orchids in winter.

Most orchids need a temperature of about 50° to 55° at night and 10° to 20° higher in the day time. A little lower is better for Odontoglossums. Laelias easily endure a night temperature of 35° but do well at 50°. Dry air should be avoided. Keep it fairly humid. Give ventilation in the day time when possible. Do not water too much in the winter. Usually a light spraying of the foliage every few days when dry and less often when weather is rainy will be enough.

In the summer the cool, high shade of large trees is an ideal place. Any cool, shady place, lath house, porch or north window may be as good. Odontoglossums must be kept very cool and frequent spraying with water, both plants and their surroundings will help. Most orchids will do better with cool conditions in the summer and more shade. They should be sprayed every evening after a hot day. The summer is the season of more rapid growth and more moisture is needed.

Winter Shipment of American Epiphytic Orchids. These can be shipped safely by express in the winter as express cars are heated. But express warehouses may not be and you should make arrangements to receive your plants on the day of arrival. The Express Agency will thus be responsible if plants freeze in transit and you can collect the value. Parcel post insurance covers only loss of package or damage by rough handling. It is not protection of tender plants against freezing.

When there is danger of freezing we usually ship plants by prepaid express when the value is over \$5.00. But this is too expensive for us on values under that. In this case it is better for you to ask us to ship by express at your expense. Or send 50c or more for postage on extra heavy packing. When orchids are shipped by mail in the winter we cannot assume liability for frost damage.

Later Delivery. If you request it, when your order arrives we will place your name on our best plants and will ship at a later date.

Cattleya Bowringiana. One of the easiest and most rapid growing Cattleyas. Not

hard to flower. Lovely rose violet sepals and petals. Lip rose, lilac within. Throat, white, edged chestnut. 3" wide flowers in October to December. This is now through flowering but it is a good *Cattleya* for you to try growing and you can increase the size of your plant for next season. Regular, \$10.00. Special price, \$7.50.

Cattleya hybrids. We are negotiating for some good varieties, reasonably priced. Send for a list of these about Feb. 1, if you are genuinely interested and intend to buy one or more.

Epidendrum fragrans, small flowers, about 2", in a spray of 75 to 100. Pale greenish to whitish with crimson streaked lip. Pretty and fragrant. \$7.50. Established in a basket, \$8.50. Most of these plants will flower in from a few weeks to some time in summer.

E. Mariae Ames. Many lovely white flowers in spring. \$7.50. In a basket, \$8.50.

E. nemorale. 8 or more fragrant, light purple flowers. Large, up to 4". April to July. \$7.50. In basket, \$8.50.

E. obrienianum. This species belongs to the *Euepidendrum* group, with tall stems and no pseudo-bulbs. Please refer to our booklet, "How To Grow Orchids" (price 25c) for a fuller discussion. These are very easy in So. California gardens or in pots. The large brilliant clusters of 1" red flowers are freely produced throughout the year when weather is warm. They will grow in a pure sandy loam but do much better if an equal portion of peat or leaf mould be added. They like nearly full sun, warm conditions. We ship started plants, loose roots for \$1.25 ea. Cuttings for 75c. As this is sensitive to cold, we ship to the north only f.o.b. express in the winter.

Laelia anceps. 2 to 6 violet rose flowers, 3"-4" diam., in winter. This is an easy to grow orchid and pretty. Too late for flowers this season but acquired now the plants will grow larger. Small established plants in paper pots \$3.00. In small baskets, \$3.75. Larger plants in paper pots \$5.00 to \$7.50. In baskets for \$1.00 more. Post paid or f.o.b. express. Very large clumps, 15 or more pseudo bulbs, established in 10" wire baskets for \$10.00, f.o.b. by express.

L. autumnalis. 3 to 9 rose purple, 3" flowers on one scape in late fall. \$5.50. In a 10" basket for \$6.50.

L. grandiflora. One of the most beautiful *Laelias* and one of the largest flowers. Rose lilac flowers in April-June. \$5.50.

Odontoglossum grande. Very large flowers 5" to 7", yellow banded chestnut brown. Three or more on a stem in August to November. Flowers are very long lasting and outstanding in summer. *O. grande* should dry a little between waterings but *O. Rossii* need almost constant moisture. Price \$5.50.

O. Rossii. 2" or 3" fls. on a 2 to 5 flowered raceme. The flowers are predominantly white with brown spots on sepals, a few in the throat, a yellow claw and rosy column. An extremely pretty little orchid. December to spring here. \$5.50. We have about 25 plants with buds or flowers. Smaller size for \$5.50. Larger budded plants for \$6.50. We can establish in baskets for \$1.00 more.

Orchid Supplies

Culture medium for growing orchid seed. This consists of powdered Agar and all the nutrients required by the Knudson formula. Enough to make 1000 cc. or slightly more than 1 qt. with directions. Price \$2.50. Half quantity for \$1.50.

Osmundine. Excellent grade for orchids. 2 lbs., gross weight, \$1.35 postpaid.

Sphagnum Moss. Top quality bales, about 14 lbs., \$3.50, f.o.b., La Verne.

Canadian Peat. The best we can get. Buy locally if able and save express. Approximate weight, 100 lbs. Per bale, \$5.00, f.o.b. Screened peat, 10 lbs. for \$1.00 f.o.b.

Wire Baskets. We have very good electric welded, galvanized baskets. Prices, 10", \$1.10 ea. or \$10.00 doz. 8", 90c ea. or \$8.00 doz. At the single rate we ship prepaid parcel post. At the dozen rate they are shipped by express, f.o.b.

Books on orchids are listed on an earlier page.

Miscellaneous

Shasta Daisy. Esther Reed. The favorite variety and fully double. They must be moved by March 1. If too cold to plant outside, pot them at once and shift to garden when warm. Single divisions 25c. 3 for 60c. \$2.25 per dozen.

Royal Robe Violet. Latest, best, deepest violet. Long stems. Grow like any other violet, in pots or outside, cool half shade for hot climates. 30c ea. 4 for \$1.00.

Commelina coelestris. Day Flower. The most intense, true blue flower. Flowers open about noon in great profusion. Plants are nearly perpetual bloomers. Plant tubers 2" or 3" deep, now in California or early spring in north. They usually perpetuate themselves in the north by seeds but tubers can be dug and stored. Small tubers 10c, 60c doz. Large 20c, \$1.35 doz.

Strelizia regina. Bird of Paradise. Musaceae, Banana Family. Large brilliant, bird shaped fls. in winter. Hardy at New Orleans. Easily grown outside in deep south or in tubs in greenhouse, half to full sun. Two year old plants, \$2.00. Blooming size, \$5.00. Large, \$7.50 per division singly or in clumps.

THE PINEAPPLE FAMILY—Bromeliaceae

Bromeliads include Billbergia, Cryptanthus, Aregelia, Tillandsia, Neoregelia and many more genera. Those listed below have rich tropical foliage and usually a very showy inflorescence. All are tropical and are hardy out doors only in the very deep south, but they are gorgeous pot plants any where and very easy to grow.

All need about half shade. Too much shade prevents the coloring of those having variegated or colored foliage. Do not overwater when first planted or in winter when semi-dormant, nor should they be dry enough to shrivel foliage. In hot weather, when growing well, water abundantly. Being epiphytic, their natural soil is rotted wood mould or leaf mould but they grow well in a shady garden in a sandy soil to which an abundance of leaf mould or peat has been added. We grow them in pockets of leaf mould on the trunks of palm trees. In pots, give good drainage and a soil of sand or sandy loam one part and leaf mould and/or peat 3 parts. Nature gave the Billbergias a cup in the center of plant to hold a drink of water.

Billbergia calophylla. Large, bronze-green foliage with contrasting bars of grey. Very large, showy inflorescence of blood-red bracts and blue flowers. \$2.50.

B. corina. Beautiful foliage, barred grey. \$3.00.

B. distachia. Foliage, reddish green with cream spots. Long flower racemes with rose pink bracts and blue flowers with green margin. Blooms early spring and again in late summer. 50c. Three clones, slightly different, one of each for \$1.15.

B. macrocalyx. Grey barred leaves to 18". Bracts rose red. Yellowish green flowers edged light blue. \$4.00.

B. nutans. The most popular of all as it blooms in mid-winter and is very lovely. Pink bracts, blue and green flowers. 50c. Three for \$1.00.

B. pyramidalis. Dark green, luxuriant foliage. Dense spike with bright red bracts. Red petals, tipped violet. For an 8" pot. \$2.50.

B. rubro-cyanea. The most colorful in foliage, showing green, white and red combinations. Inflorescence, crimson bracts, flowers green, edged dark blue. To bring out colors in foliage give more sun exposure being careful that foliage does not burn. Two seedlings of this sanderiana-nutans hybrids at \$1.25 ea. or both for \$2.00.

B. speciosa. Foliage green above. Under side greyish green. Bracts rose, flowers pale green tipped with blue. \$2.00.

B. thrysiflora. Mature foliage faintly barred. Summer blooming. Vivid inflorescence, scarlet bracts, blue and purple flowers. \$1.50.

B. Zebrina. Leaves with contrasting white bands and spots. Salmon bracts and green flowers. \$2.50.

Collection of all ten varieties. List price, \$20.25 for \$17.50.